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BLISS: A COMPUTER PROGRAM FOR THE PROTECTION OF BLOOD DONORS*

by

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radioactivity and DMSO levels, from too frequent of donations of blood, and from adverse reactions. The program can also be used to select donors who have participated in specific studies and to list the experimental details which have been stored in the file. The BLISS system has been actively utilized at the Naval Blood Research Laboratory in Boston and contains the files of over 750 donors.

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ABSTRACT

A BASIC program has been developed for the Hewlett-Packard Model 9845 desk-top computer which allows the creation of blood donor files for subsequent retrieval, update, and correction. A similar modified version was developed for the HP 9835 Model. This software system has been called BLISS which stands for Blood Information and Security System. In addition to its function as a file management system, BLISS provides warnings before a donation is performed to protect the donor from excessive exposure to radioactivity and DMSO levels, from too frequent of donations of blood, and from adverse reactions. The program can also be used to select donors who have participated in specific studies and to list the experimental details which have been stored in the file. The BLISS system has been actively utilized at the Naval Blood Research Laboratory in Boston and contains the files of over 750 donors.

INTRODUCTION

A need existed at the Naval Blood Research Laboratory in Boston to have easy and quick access to information files on blood donors, so that they can be better protected from excessive exposure to radiation from too frequent donation/transfusions.

To this purpose, the computer software system was developed for use on the Models 9845 and 9835 Hewlett-Packard desk-top computers. The programming language was BASIC. The system has been called BLOOD INFORMATION AND SECURITY SYSTEM, now known as BLISS in its abbreviated form.

BLISS consists of six main programs and four peripheral programs as follows:

MAIN PROGRAMS

DONOR	Generates and updates an information file for each donor.
SOCIAL	Lists donor's social security and storage disk numbers.
LIST	Lists information from all or selected donations for each number.
WRONG	Makes corrections on previously entered data.
ALERT	Lists DMSO and radioactivity levels previously received and warns if the imminent transfusion would exceed the safety limit for the donor.
SELECT	Lists the name, social security number and donation dates of all donors having a user-given combination of experimental conditions.

PERIPHERAL PROGRAMS

- HOW-TO Provides information and instructions about the BLISS system.
- BACKUP Copies all data from main disks to a second set of disks stored elsewhere for emergency backup.
- NUMBER Creates a file on data storage disks which prevents the user from adding data to the wrong disk or mixing up main disks with back-up disks.
- FILE Creates a file, similar to REGIS, which can be used to store social security and storage disk numbers. This allows the user to test programming changes without risk to existing data, or to use BLISS to keep a separate set of data not related to the main security system.

OPERATION

To start operation of the BLISS system a user is instructed to do the following:

TO OPERATE A PROGRAM DO THE FOLLOWING:

1. INSERT PROGRAM DISK INTO THE TOP FLEXIBLE DISK DRIVE AND OTHER DISKS INTO THE LOWER DISK DRIVES AS CALLED FOR BY THE PROGRAMS.
2. TYPE THE COMMAND: GET ``BLISS:F8'',10,10 (USING REGULAR QUOTE MARKS). PRESS KEYBOARD KEY ``EXECUTE'.
3. PROGRAM BEGINS. PLACE BLISS OVERLAY ON THE UPPER RIGHT HAND KEYS. ALL RESPONSES EXCEPT YES & NO MUST BE FOLLOWED BY ``CONT'.
5. BE SURE TO ANSWER ALL QUESTIONS WITHIN THE PROGRAM. IF NOT APPLICABLE, ENTER ``0' AND PRESS ``CONT'.
6. IF YOU ENCOUNTER PROBLEMS AND WANT TO START OVER, PRESS KEYBOARD KEYS ``STOP' AND THEN ``RUN'.

OTHER INFORMATION YOU MAY NEED:

1. THE QUESTION ``COMPUTER 9835 OR 9845?' REFERS TO THE MODEL NUMBER SHOWN ON THE FACE OF THE MACHINE. BLISS WILL OPERATE ON EITHER MACHINE, HOWEVER, FOR MODEL 9835, VARIABLE NAMES ARE PRESENTED ON A TYPED SHEET STORED IN THE PROGRAM DISK ENVELOPE AND PRINTED OUTPUT APPEARS IN HIGHLY ABBREVIATED FORM. IT IS RECOMMENDED THAT YOU BECOME FAMILIAR WITH BLISS ON MODEL 9845.
2. EACH PROGRAM WILL GIVE YOU THE STORAGE DISK NUMBER OF THE DONOR. BECAUSE THE PROGRAM DISK CONTAINS THIS INFORMATION BE SURE THAT IT IS ALWAYS INSERTED INTO THE TOP DISK DRIVE. INSERT OTHER DISKS AS CALLED FOR IN THE LOWER DISK DRIVES.
3. PLEASE WRITE DOWN YOUR PROBLEMS AND IDEAS FOR IMPROVEMENTS AND GIVE THEM TO STINA COOKE (MON & FRI AFTERNOONS).

END

THE DONOR PROGRAM

Upon loading the BLISS system (see example 1 below) and subsequently the DONOR program, the following questions are asked on the CRT screen.

- a. DONATION PERFORMED (Y/N) ?
- b. SOCIAL SECURITY NO.?
- c. DONATION DATE?
- d. METHOD OF (BLOOD) COLLECTION?
- e. TYPES OF CELLS AND STUDY?
- f. BLOOD VOLUME DRAWN (ML)?
- g. KIND OF STORAGE AND CELL AGE?
- h. REJUVENATION SOLUTION?
- i. 51-CR RADIATION (MICROCURIES)?
- j. 125-I RADIATION (MICROCURIES)?
- k. 111-INDIUM RADIATION (MICROCURIES)?
- l. DMSO CONCENTRATION (%)?
- m. RESIDUAL DMSO INFUSED (MG)?
- n. AUTOTRANSFUSION NUMBER?
- o. SPECIAL CODE NUMBER?
- p. ANY REACTIONS?
- q. WASH SOLUTION?
- r. COMMENTS?
- s. MORE COMMENTS?

It should be noted that a donation file will be created only if the donation has been performed i.e. answering YES in question (a). When the social security number is given the program searches to see if the donor already has a file in which case the number of the appropriate disk is printed. The disk is inserted and the program continues with the rest of the questions. When all questions are answered, a printout is produced with all the information accepted for user confirmation.

Examples of the questionnaire and the confirmation are shown below (examples 2 and 3).

EXAMPLE 1LOADING BLISS

```

GET "BLISS:F8",10,10
Computer Number? (9835 OR 9845)
9845
Is BLISS overlay placed on keys? (Y/N)
Y
SELECT ANY PROGRAM

```

EXAMPLE 2RUNNING "DONOR"

```

LOAD "DONOR4:F8",10
DONATION PERFORMED (Y/N)
Y
SOCIAL SECURITY NO.?
111-11-1111
PLEASE WAIT
INSERT DISK NO.: 1   PRESS >CONT<
DONATION DATE IN THE FORM MM-DD-YY
11-17-81
METHOD OF COLLECTION?
CFD
TYPES OF CELLS AND STUDY?
RBCTX
BLOOD VOLUME DRAWN? (MLS)
80
KIND OF STORAGE AND CELL AGE?
FZNINM
REJUVENATION SOLUTION?
NR
51-CR RADIATION (MICROCURIES)?
5.0
125-I RADIATION (MICROCURIES)?
0.5
111-INDIUM RADIATION (MICROCURIES)?
0
DMSO CONCENTRATION (%)?
0
RESIDUAL DMSO INFUSED (MG)?
0
AUTOTRANSFUSION NUMBER?
1106
SPECIAL CODE NO.?
0
ANY REACTIONS?
0
WASH SOLUTION?
9/2-6.8-40
COMMENTS?
0
MORE COMMENTS?
0

```

EXAMPLE 3CONFIRMING ANSWERS

HERE IS THE INFORMATION YOU ENTERED

SOCIAL SECURITY NUMBER.= 111-11-1111
 DATE OF DONATION= 11-17-81
 METHOD OF COLLECTION= CPD
 TYPES OF CELLS AND STUDY= RECTX
 BLOOD VOLUME DRAWN= 80 MLS
 KIND OF STORAGE AND CELL AGE= FZNINM
 REJUVENATION SOLUTION= NR
 51-CR RADIATION= 5.0 MICROCURIES
 125-I RADIATION= 0.5 MICROCURIES
 111-INDIUM RADIATION= 0 MICROCURIES
 DMSO CONCENTRATION= 0%
 RESIDUAL DMSO INFUSED= 0 MG
 AUTOTRANSFUSION NO = 1106
 SPECIAL CODE 1..= 0
 REACT IONS= 0
 WASH SOLUTION= 9/2-6.8-40
 COMMENTS= 0
 MORE COMMENTS= 0

IS THE CORRECT INFORMATION? (Y/N)

Y

PLEASE WAIT

ANOTHER DONOR? (Y/N)

N

SELECT ANY PROGRAM

If the information is not correct, no record is created and the questionnaire reappears on the screen.

THE LIST PROGRAM

This program lists selected, or all donations of a donor
by using his social security number

EXAMPLE 4

RUNNING "LIST"

```
LOAD "LIST4:F8",10
SOCIAL SECURITY NO.?
111-11-1111
PLEASE WAIT
INSERT DISK NO.: 1  PRESS ^CONT^
DO YOU WANT A PRINTED COPY? (Y/N)
Y
DO YOU WANT ALL DONATIONS LISTED? (Y/N)
Y
```

EXAMPLE 5LIST OUTPUT

SOCIAL SECURITY NO.: 111-11-1111
NAME: ALFRED RENTA
NO. OF DONATIONS: 4
DISK: 1

DONATION NO.: 1
DATE: 01-13-81
METHOD OF COLLECTION: CPD
TYPES OF CELLS AND STUDY: RBC TX
BLOOD VOLUME DRAWN: 80 MLS
KIND OF STORAGE AND CELL AGE: FZNINM
REJUVENATION SOLUTION: NR
51-CR: 5.0 MICROCURIES
125-I: 0.5 MICROCURIES
111-INDIUM: 0 MICROCURIES
DMSO CONCENTRATION: 0%
RESIDUAL DMSO INFUSED: 0 MG
AUTOTRANSFUSION NO.: 1076
SPECIAL CODE NO.: 004691
REACTIONS: 0
WASH SOLUTION: 9/2-6.8-40
COMMENTS: POOR FTW
MORE COMMENTS: FZN ERR

DONATION NO.: 2
DATE: 04-23-81
METHOD OF COLLECTION: CPD
TYPES OF CELLS AND STUDY: RBC TX
BLOOD VOLUME DRAWN: 80 MLS
KIND OF STORAGE AND CELL AGE: FZNOUM
REJUVENATION SOLUTION: PIPAC
51-CR: 5.0 MICROCURIES
125-I: 0.5 MICROCURIES
111-INDIUM: 0 MICROCURIES
DMSO CONCENTRATION: 0%
RESIDUAL DMSO INFUSED: 0 MG
AUTOTRANSFUSION NO.: 1095
SPECIAL CODE NO.: 004718
REACTIONS: I-125
WASH SOLUTION: 9/2-5-40
COMMENTS: 0
MORE COMMENTS: 0

THE SOCIAL PROGRAM

This program lists the social security number and storage disk number of a specified number of donors.

EXAMPLE 6SOCIAL QUESTIONNAIRE AND OUTPUT

```
LOAD "SOCIA4:F8",10
DO YOU WANT A PRINTED COPY? (Y/N)
Y
NO. OF DONORS:      9
```

SOC. SEC. NO.:

111-11-1111	DISK	1
222-22-2222	DISK	1
333-33-3333	DISK	1
444-44-4444	DISK	1
001-23-4567	DISK	1
777-77-7777	DISK	1
888-88-8888	DISK	1
125-14-1270	DISK	1
025-25-2567	DISK	1

```
END
SELECT ANY PROGRAM
```

THE SELECT PROGRAM

This program lists the name, social security number and donation date of all donors subjected to a specified treatment. With this information, the user may retrieve the experimental details by using the LIST program.

EXAMPLE 7SELECT QUESTIONNAIRE

```
LOAD "SELEC4:F8",10
METHOD OF COLLECTION (0 IF NOT INTERESTED)
CPD
TYPES OF CELLS & STUDY? (0 IF NOT INTERESTED)
0
KIND OF CELLS & STORAGE AGE? (0 IF NOT INTERESTED)
0
REJUVENATION SOLUTION? (0 IF NOT INTERESTED)
PIPAC
DO YOU WANT A PRINTED COPY? (Y/N)
Y
```


EXAMPLE 8SELECT OUTPUT

COMBINATION:

CPD
0
0
PIPAC

INSERT ANY MAIN DISK, PRESS 'CONT'.
PLEASE WAIT

DONATIONS MEETING ABOVE COMBINATION
ON DISK # 1

SOCIAL SECURITY NO.: 111-11-1111
NAME: ALFRED RENTA
DONATION DATE: 04-23-81

SOCIAL SECURITY NO.: 222-22-2222
NAME: MILO BENDER
DONATION DATE: 07-11-81

SOCIAL SECURITY NO.: 333-33-3333
NAME: CHERI SOBEL
DONATION DATE: 01-09-81
DONATION DATE: 01-12-81

SOCIAL SECURITY NO.: 888-88-8888
NAME: STEVE JONES
DONATION DATE: 10-12-81

END
SAME COMBINATION ON ANOTHER DISK? (Y/N)
N
ANOTHER COMBINATION? (Y/N)
N
SELECT ANY PROGRAM

THE ALERT PROGRAM

This program searches a donors file and provides Warning
Conditions of radioactivity, DMSO levels, blood volume withdrawn,
and frequency of donation exceed certain limits set by the Naval
Blood Research Laboratory

EXAMPLE 9ALERT QUESTIONNAIRE

```
LOAD "ALERT4:F8",10
DO YOU WANT A PRINTED COPY? (Y/N)
Y
SOCIAL SECURITY NO.?
222-22-2222
PLEASE WAIT
INSERT DISK NO.: 1   PRESS ^CONT^
TODAY'S DATE (MM-DD-YY)
09-25-81
WHAT TYPE OF STUDY DO YOU INTEND TO DO?
RBCDR
VOLUME OF BLOOD YOU INTEND TO DRAW?
450
```

EXAMPLE 10ALERT OUTPUT

DONOR NAME: MILO BENDER
SOCIAL SECURITY NO.: 222-22-2222
TODAY'S DATE: 09-25-81
STUDY PLANNED: RBCDR
VOLUME TO BE DRAWN: 450 ML

RADIOACTIVITY AND DMSO DATA

DATE: 04-03-81
DMSO CONCENTRATION: 0%
RESIDUAL DMSO INFUSED: 0 MG
51-CR: 5.0 MICROCURIES
125-I: 0.5 MICROCURIES
111-INDIUM: 0 MICROCURIES

DATE: 07-11-81
DMSO CONCENTRATION: 0%
RESIDUAL DMSO INFUSED: 0 MG
51-CR: 5.0 MICROCURIES
125-I: 0.5 MICROCURIES
111-INDIUM: 0 MICROCURIES

REACTIONS ALERT

NONE

PLEASE WAIT

RADIOACTIVITY ALERT

STOP--DO NOT USE THIS DONOR
RBCTX--PERFORMED WITHIN THE LAST 90 DAYS

BLOOD VOLUME ALERT

STOP--DO NOT USE THIS DONOR
450 ML/60 DAYS PLUS 450 WILL EXCEED LIMIT

DRAW ALERT

NONE

THE HOW-TO PROGRAM

This program provides a copy of instructions for operating the BLISS program

EXAMPLE 11HOW-TO OUTPUT

LOAD "HOW-TO:F8",10
DO YOU WANT A PRINTED COPY OF THESE INSTRUCTIONS? (Y/N)
Y

WELCOME TO THE BLOOD INFORMATION AND SECURITY SYSTEM KNOWN AS:

B L I S S

THIS SET OF SIX MAIN AND FOUR PERIPHERAL PROGRAMS WAS DESIGNED BY DR. NICHOLAS CATSIMPOOLAS AND ADAPTED FOR USE ON THE MODELS 9835 AND 9845 HEWLETT-PACKARD DESK-TOP COMPUTERS BY STINA COOKE FOR THE NAVAL BLOOD RESEARCH LABORATORY IN BOSTON.

THESE PROGRAMS STORE INFORMATION ON BLOOD DONORS, PROVIDE EASY ACCESS TO DATA, WARN PERSONNEL OF EXCEEDED SAFETY LIMITS AND ALLOW THE USER TO SEARCH FOR DONORS MEETING CERTAIN EXPERIMENTAL CONDITIONS.

BLISS CONSISTS OF SIX MAIN PROGRAMS:

DONOR	GENERATES AND UPDATES AN INFORMATION FILE FOR EACH DONOR.
SOCIAL	LISTS DONOR'S SOCIAL SECURITY AND STORAGE DISK NUMBER.
LIST	LISTS DATA FROM ALL OR SELECTED DONATIONS.
WRONG	MAKES CORRECTIONS ON PREVIOUSLY ENTERED DATA.
ALERT	LISTS DMSO AND RADIOACTIVITY LEVELS PREVIOUSLY RECEIVED, AND WARNS IF DONOR SAFETY LEVELS HAVE BEEN EXCEEDED.
SELECT	LISTS THE NAME, SOCIAL SECURITY NUMBER, AND DONATION DATES OF ALL DONORS HAVING A USER-GIVEN COMBINATION OF EXPERIMENTAL CONDITIONS.

HOW-TO OUTPUT (continued)

AND FOUR PERIPHERAL PROGRAMS:

- HOW-TO PROVIDES INFORMATION AND INSTRUCTIONS ABOUT THE SYSTEM. HOW-TO OPERATES ONLY ON MODEL 9845 AND DISPLAYS ON SCREEN OR WITH OPTIONAL PAPER PRINT-OUT.
- BACKUP COPIES ALL DATA FROM MAIN DISKS TO A SECOND SET OF DISKS STORED ELSEWHERE FOR EMERGENCY PURPOSES.
- NUMBER CREATES A FILE CALLED 'Number' ON NEW STORAGE DISKS WHICH PREVENTS ADDING DATA TO THE WRONG DISK OR MIXING UP MAIN DISKS WITH BACKUP DISKS.
- FILE CREATES A FILE WHICH CAN BE USED TO STORE SOCIAL SECURITY AND STORAGE DISK NUMBERS. THIS ALLOWS THE USER TO TEST PROGRAMMING CHANGES WITHOUT RISK TO ESTABLISHED DATA, OR TO USE 'BLISS' TO KEEP A SEPARATE SET OF DATA NOT RELATED TO THE MAIN SECURITY SYSTEM.

TO OPERATE A PROGRAM DO THE FOLLOWING:

1. INSERT PROGRAM DISK INTO THE TOP FLEXIBLE DISK DRIVE AND OTHER DISKS INTO THE LOWER DISK DRIVES AS CALLED FOR BY THE PROGRAMS.
2. TYPE THE COMMAND: GET ``BLISS:F8'',10,10 (USING REGULAR QUOTE MARKS). PRESS KEYBOARD KEY 'EXECUTE'.
3. PROGRAM BEGINS. PLACE BLISS OVERLAY ON THE UPPER RIGHT HAND KEYS. ALL RESPONSES EXCEPT YES & NO MUST BE FOLLOWED BY 'CONT'.
5. BE SURE TO ANSWER ALL QUESTIONS WITHIN THE PROGRAM. IF NOT APPLICABLE, ENTER '0' AND PRESS 'CONT'.
6. IF YOU ENCOUNTER PROBLEMS AND WANT TO START OVER, PRESS KEYBOARD KEYS 'STOP' AND THEN 'RUN'.

OTHER INFORMATION YOU MAY NEED:

1. THE QUESTION 'COMPUTER 9835 OR 9845?' REFERS TO THE MODEL NUMBER SHOWN ON THE FACE OF THE MACHINE. BLISS WILL OPERATE ON EITHER MACHINE, HOWEVER, FOR MODEL 9835, VARIABLE NAMES ARE PRESENTED ON A TYPED SHEET STORED IN THE PROGRAM DISK ENVELOPE AND PRINTED OUTPUT APPEARS IN HIGHLY ABBREVIATED FORM. IT IS RECOMMENDED THAT YOU BECOME FAMILIAR WITH BLISS ON MODEL 9845.
2. EACH PROGRAM WILL GIVE YOU THE STORAGE DISK NUMBER OF THE DONOR. BECAUSE THE PROGRAM DISK CONTAINS THIS INFORMATION BE SURE THAT IT IS ALWAYS INSERTED INTO THE TOP DISK DRIVE. INSERT OTHER DISKS AS CALLED FOR IN THE LOWER DISK DRIVES.
3. PLEASE WRITE DOWN YOUR PROBLEMS AND IDEAS FOR IMPROVEMENTS AND GIVE THEM TO STINA COOKE (MON & FRI AFTERNOONS).

END
SELECT ANY PROGRAM

THE WRONG PROGRAM

This program makes corrections on previously entered data on a particular donors file.

EXAMPLE 12WRONG QUESTIONNAIRE

BLISS

PROGRAM WRONG

1	SOCIAL SECURITY NO.	2	DONOR'S FIRST NAME
3	DONOR'S LAST NAME	4	DATE OF DONATION
5	METHOD OF COLLECTION	6	TYPES OF CELLS AND STUDY
7	KIND OF STORAGE AND CELL AGE	8	REJUVENATION SOLUTION
9	51-CR RADIATION	10	125-I RADIATION
11	111-INDIUM RADIATION	12	DMSO CONCENTRATION
13	RESIDUAL DMSO INFUSED	14	AUTOTRANSFUSION NO.
15	SPECIAL CODE NO.	16	REACTIONS
17	ENTIRE DONATION	18	WASH SOLUTION
19	COMMENTS	20	MORE COMMENTS
21	BLOOD VOLUME		

WHAT IS WRONG? (ITEM NUMBER)

21

DONOR'S SOCIAL SECURITY NO.?

111-11-1111

PLEASE WAIT

INSERT DISK NO.: 1 PRESS ^CONT^

DONATION DATES:

1 01-13-81

2 04-23-81

3 05-15-81

4 11-17-81

DONATION NO.?

1

BLOOD VOLUME DRAWN (MLS)?

80

THE BACKUP PROGRAM

This program provides a series of instructions which the user has to perform correctly in order to copy the contents of a disk to a duplicate (back-up) disk.

THE NUMBER PROGRAM

This program provides a series of instructions to create a file on additional data disks which prevents the user from inadvertently adding data to the wrong disk or mixing main with back-up disks.

THE FILE PROGRAM

This program provides steps to create a file similar to REGIS (the social security number phone book) which allows the user to test programming changes without risking existind data, or to keep a separate set of data not related to the main security system.

COMPUTER PROGRAMS

1. PROGRAM DONOR

DONOR

```

10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM DONOR"
60  PRINT
70  PRINT
80  MASS STORAGE IS ":F8,1"
90  LINPUT "DONATION PERFORMED (Y/N)",Performed$
100 IF Performed$="Y" THEN 130
110 PRINT "SORRY, WRONG PROGRAM"
120 GOTO 2640
130 LINPUT "SOCIAL SECURITY NO.?",Ss$
140 IF Ss$[4;1]<>"-" THEN 180
150 IF Ss$[7;1]<>"-" THEN 180
160 IF LEN(Ss$)>11 THEN 180
170 GOTO 210
180 DISP "INCORRECT SS#--TO TRY AGAIN PRESS `CONT`"
190 PAUSE
200 GOTO 130
210 DISP "PLEASE WAIT"
220 O$=Ss$[5,6]
230 P$=Ss$[8,11]
240 File$=O$&P$
250 ASSIGN #5 TO "REGIS:F8"
260 READ #5,1;P
270 FOR I=P+1 TO 2 STEP -1
280   READ #5,I;Ss1$,Disk
290   IF Ss1$=Ss$ THEN 380
300   NEXT I
310 Newdonor$="Y"
320 P8=P+1
330 Q=P8/50
340 Q1=INT(Q)
350 IF Q=Q1 THEN Disk=Q1
360 IF Q>Q1 THEN Disk=Q1+1
370 GOTO 390
380 Newdonor$="N"
390 DISP "INSERT DISK NO.:";Disk;"  PRESS `CONT`"
400 PAUSE
410 ASSIGN #3 TO "Number"
420 READ #3;Disknumber,Disktype$
430 IF Disktype$<>"M" THEN 450
440 IF Disk=Disknumber THEN 480
450 DISP "WRONG DISK, INSERT NO.:";Disk;"  PRESS `CONT`"
460 PAUSE
470 GOTO 410
480 IF Newdonor$="N" THEN 510
490 LINPUT "LAST NAME OF DONOR (<13 LETTERS)",Lastname$
500 LINPUT "FIRST NAME OF DONOR (<13 LETTERS)",Firstname$
510 LINPUT "DONATION DATE IN THE FORM MM-DD-YY",Date$
520 PRINT
530 PRINT "V776";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V776)"
540 PRINT "A772";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC A772)"
550 PRINT "V1035";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V1035)"
560 PRINT "CPD";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--STANDARD COLLECTION BAG)"
570 PRINT "ACD";TAB(10);"(ACID CITRATE DEXTROSE)"
580 PRINT "CPDA1";TAB(10);"(CITRATE-PHOSPHATE-DEXTROSE-ADENINE 1)"

```

DONOR

```

590 PRINT "CPDA2";TAB(10);"(CITRATE-PHOSPHATE-DEXTROSE-ADENINE 2)"
600 PRINT "CPDA3";TAB(10);"(CITRATE-PHOSPHATE-DEXTROSE-ADENINE 3)"
610 PRINT "HEP";TAB(10);"(HEPARIN)"
620 PRINT "RCPD";TAB(10);"(1 UNIT RBC RETURNED; CPD)"
630 PRINT "RACD";TAB(10);"(1 UNIT RBC RETURNED; ACD)"
640 PRINT "2 RCPD";TAB(10);"(2 UNITS RBC RETURNED; CPD)"
650 PRINT "2 RACD";TAB(10);"(2 UNITS RBC RETURNED; ACD)"
660 PRINT "RCPDA1";TAB(10);"(RBC RETURNED CPDA1)"
670 PRINT "RCPDA2";TAB(10);"(RBC RETURNED CPDA2)"
680 PRINT "RCPDA3";TAB(10);"(RBC RETURNED; CPDA3)"
690 PRINT "ADL";TAB(10);"(PHERESIS)"
700 PRINT "IBM";TAB(10);"(PHERESIS)"
710 PRINT "FENWAL";TAB(10);"(PHERESIS)"
720 PRINT "OTHER";TAB(10);"(MISCELLANEOUS)"
730 INPUT "METHOD OF COLLECTION?";Method$
740 PRINT PAGE
750 PRINT
760 PRINT "RBCTX";TAB(13);"(RED CELL TRANSFUSION)"
770 PRINT "RBCDR";TAB(13);"(RED CELL UNIT DRAW)"
780 PRINT "PLTTX";TAB(13);"(PLATELET TRANSFUSION)"
790 PRINT "PLTDR";TAB(13);"(PLATELET DRAW-WHOLE BLOOD)"
800 PRINT "PLTDRPPP";TAB(13);"(PLATELET DRAW-PLATELET RICH PLASMA)"
810 PRINT "PLTDRPPP";TAB(13);"(PLATELET DRAW-PLATELET POOR PLASMA)"
820 PRINT "WBCTX";TAB(13);"(WHITE BLOOD CELL TRANSFUSION)"
830 PRINT "WBCDR";TAB(13);"(WHITE BLOOD CELL DRAW)"
840 PRINT "SSAMP";TAB(13);"(1-50 ML SAMPLE)"
850 PRINT "LSAMP";TAB(13);"(GREATER THAN 50 ML SAMPLE)"
860 PRINT "EYE";TAB(13);"(EYE EXAM)"
870 PRINT "BONEM";TAB(13);"(BONE MARROW)"
880 PRINT "PBSTEM";TAB(13);"(PERIPHERAL BLOOD STEM CELLS)"
890 PRINT "NEOCTX";TAB(13);"(NEOCYTES TRANSFUSION)"
900 PRINT "NEOCDR";TAB(13);"(NEOCYTE DRAW)"
910 PRINT
920 PRINT
930 INPUT "TYPES OF CELLS AND STUDY?";Types$
940 PRINT PAGE
950 INPUT "BLOOD VOLUME DRAWN? (MLS)";Volume$
960 PRINT
970 PRINT "LIQOU";TAB(10);"(LIQUID OUTDATED)"
980 PRINT "LIQIN";TAB(10);"(LIQUID INDATED)"
990 PRINT "FZNOUM";TAB(10);"(FROZEN, OUTDATED, MECHANICAL)"
1000 PRINT "FZNINM";TAB(10);"(FROZEN, INDATED, MECHANICAL)"
1010 PRINT "FZNOUL";TAB(10);"(FROZEN, OUTDATED, LIQUID NITROGEN)"
1020 PRINT "FZNINL";TAB(10);"(FROZEN, INDATED, LIQUID NITROGEN)"
1030 PRINT "NOT FZN";TAB(10);"(NOT FROZEN)"
1040 PRINT
1050 PRINT
1060 INPUT "KIND OF STORAGE AND CELL AGE?";Kind$
1070 PRINT PAGE
1080 PRINT
1090 PRINT "PIGPA";TAB(10);"(PIGPA SOLUTION A)"
1100 PRINT "PIGPB";TAB(10);"(PIGPA SOLUTION B)"
1110 PRINT "PIGPAC";TAB(10);"(PIGPA SOLUTION C)"
1120 PRINT "PIPAR";TAB(10);"(PIPA (NO GLUCOSE) SOLUTION A)"
1130 PRINT "PIPAB";TAB(10);"(PIPA (NO GLUCOSE) SOLUTION B)"
1140 PRINT "PIPAC";TAB(10);"(PIPA (NO GLUCOSE) SOLUTION C)"
1150 PRINT "FFES";TAB(10);"(FENWAL REJUVENATION SOLUTION)"
1160 PRINT "NR";TAB(10);"(NON-REJUVENATED)"

```

DONOR

```

1170 LINPUT "REJUVENATION SOLUTION?",Rejuvsoln$
1180 PRINT PAGE
1190 LINPUT "51-CR RADIATION (MICROCURIES)?",Cr51$
1200 LINPUT "125-I RADIATION (MICROCURIES)?",I125$
1210 LINPUT "111-INDIUM RADIATION (MICROCURIES)?",Indium111$
1220 LINPUT "DMSO CONCENTRATION (%)?",Dmsococonc$
1230 LINPUT "RESIDUAL DMSO INFUSED (MG)?",Dmsoinfused$
1240 LINPUT "AUTOTRANSFUSION NUMBER?",Autotrans$
1250 LINPUT "SPECIAL CODE NO.?",Code$
1260 PRINT
1270 PRINT "I-125"
1280 PRINT "PLT-REA"
1290 PRINT "RBC-REA"
1300 PRINT "WBC-REA"
1310 PRINT "IF NONE, ENTER 0"
1320 LINPUT "ANY REACTIONS?",Reactions$
1330 PRINT PAGE
1340 PRINT
1350 PRINT "8/2-7-40";TAB(15);"(0.8/0.2 pH 7 with PHOSPHATES (40mg%))"
1360 PRINT "9/2-5-00";TAB(15);"(0.9/0.2 pH 5 without PHOSPHATES)"
1370 PRINT "9/2-5-40";TAB(15);"(0.9/0.2 pH 5 with PHOSPHATES (40mg%))"
1380 PRINT "9/2-5-80";TAB(15);"(0.9/0.2 pH 5 with PHOSPHATES (80mg%))"
1390 PRINT "9/2-6-80";TAB(15);"(0.9/0.2 pH 6 with PHOSPHATES (80mg%))"
1400 PRINT "9/2-6.5-40";TAB(15);"(0.9/0.2 pH 6.5 with PHOSPHATES (40mg%))"
1410 PRINT "9/2-6.8-40";TAB(15);"(0.9/0.2 pH 6.8 with PHOSPHATES (40mg%))"
1420 PRINT
1430 PRINT
1440 LINPUT "WASH SOLUTION?",Washsoln$
1450 PRINT PAGE
1460 PRINT "PROC ERR (PROCESSING ERROR)";TAB(40);"CONT UNIT (CONTAMINATED UNIT)"
"
1470 PRINT "REFZN (UNIT WAS REFROZEN)";TAB(40);"PED (PEDIATRIC UNIT)"
1480 PRINT "FZN ERR (FREEZING ERROR)";TAB(40);"CARD (CARDIOPLEGIA UNIT)"
1490 PRINT "LOW HCT (HEMATOCRIT TOO LOW)";TAB(40);"TRANS (UNIT SUBJECTED TO
TRANSPORT)"
1500 PRINT "HIGH HCT (HEMATOCRIT TOO HIGH)";TAB(40);"SHORT DR (SHORT DRAW)"
1510 PRINT "LOW PUL (PULSE RATE TOO LOW)";TAB(40);"LIQ WSH (UNIT WAS LIQUID
WASHED)"
1520 PRINT "HIGH PUL (PULSE RATE TOO HIGH)";TAB(40);"LOW TEMP (TEMP TOO LOW)"
1530 PRINT "IRR PUL (PULSE RATE IRREGULAR)";TAB(40);"HIGH TEMP (TEMP TOO HIGH)"
"
1540 PRINT "LOW BP (BLOOD PRESSURE TOO LOW)";TAB(40);"PLT ISO (PLATELETS IS
OLATED FROM UNIT)"
1550 PRINT "HIGH BP (BLOOD PRESSURE TOO HIGH)";TAB(40);"VITRO WASH (UNIT WASHED
FOR VITRO USE)"
1560 PRINT "WTHDRW (DONOR VOLUNTARILY WITHDREW)";TAB(40);"RJTD (DONOR RE
JECTED FOR UNIT DRAW)"
1570 PRINT "ILL (DONOR WAS ILL)";TAB(40);"ALC IN (DONOR HAD INGESTED AL
COHOL)"
1580 PRINT "NO SHOW (DONOR DID NOT APPEAR)";TAB(40);"-----"
"
1590 PRINT "V776 (UNIT DRAWN IN NEW PLASTIC BAG V776)"
1600 PRINT "A772 (UNIT DRAWN IN NEW PLASTIC BAG A772)"
1610 PRINT "21 LIO (LIQUID STORED FOR 21 DAYS @ 4degC)"
1620 PRINT "35 LIO (LIQUID STORED FOR 35 DAYS @ 4degC)"
1630 PRINT "POOR FTW (POOR FREEZE-THAW-WASH RECOVERY)"
1640 PRINT "72 HP (UNIT STOPED @ 4degC FOR 72 HOURS POST WASH)"

```

DONOR

```

1650 PRINT "NO(XHR) (NO SAMPLES OBTAINED AFTER TIME INDICATED)"
1660 INPUT "COMMENTS?",Comments$
1670 IF LEN(Comments$)>12 THEN 1690
1680 GOTO 1720
1690 DISP "COMMENT TOO LONG--TO TRY AGAIN, PRESS `CONT`"
1700 PAUSE
1710 GOTO 1660
1720 INPUT "MORE COMMENTS?",Comments2$
1730 IF LEN(Comments2$)>12 THEN 1750
1740 GOTO 1770
1750 DISP "COMMENT TOO LONG--TO TRY AGAIN, PRESS `CONT`"
1760 GOTO 1720
1770 PRINT PAGE
1780 PRINTER IS 0
1790 PRINT
1800 PRINT
1810 PRINT "HERE IS THE INFORMATION YOU ENTERED"
1820 PRINT
1830 IF Newdonor$="N" THEN 1850
1840 PRINT SPA(15);"NAME OF DONOR= ";Firstname$;SPA(1);Lastname$
1850 PRINT SPA(5);"SOCIAL SECURITY NUMBER.= ";Ss$
1860 PRINT SPA(12);"DATE OF DONATION= ";Date$
1870 PRINT SPA(8);"METHOD OF COLLECTION= ";Method$
1880 PRINT SPA(4);"TYPES OF CELLS AND STUDY= ";Types$
1890 PRINT SPA(10);"BLOOD VOLUME DRAWN= ";Volume$;" MLS"
1900 PRINT "KIND OF STORAGE AND CELL AGE= ";Kind$
1910 PRINT SPA(7);"REJUVENATION SOLUTION= ";Rejuvsoln$
1920 PRINT SPA(13);"51-CR RADIATION= ";Cr51$;SPA(1);"MICROCURIES"
1930 PRINT SPA(13);"125-I RADIATION= ";I125$;SPA(1);"MICROCURIES"
1940 PRINT SPA(8);"111-INDIUM RADIATION= ";Indium111$;SPA(1);"MICROCURIES"
1950 PRINT SPA(10);"DMSO CONCENTRATION= ";Dmsococonc$;"%"
1960 PRINT SPA(7);"RESIDUAL DMSO INFUSED= ";Dmsoinfused$;SPA(1);"MG"
1970 PRINT SPA(9);"AUTOTRANSFUSION NO.= ";Autotrans$
1980 PRINT SPA(12);"SPECIAL CODE NO.= ";Code$
1990 PRINT SPA(19);"REACTIONS= ";Reactions$
2000 PRINT SPA(15);"WASH SOLUTION= ";Washsoln$
2010 PRINT SPA(20);"COMMENTS= ";Comments$
2020 PRINT SPA(15);"MORE COMMENTS= ";Comments2$
2030 PRINT
2040 PRINT
2050 PRINTER IS 16
2060 INPUT "IS THE CORRECT INFORMATION? (Y/N)",Correct$
2070 DISP "PLEASE WAIT"
2080 IF Correct$="Y" THEN 2100
2090 IF Correct$="N" THEN 130
2100 IF Newdonor$="N" THEN 2160
2110 IF Newdonor$="Y" THEN 2120
2120 E=1
2130 CREATE File$,200,15
2140 ASSIGN #1 TO File$
2150 GOTO 2200
2160 ASSIGN #1 TO File$
2170 ON END #1 GOSUB 2750
2180 READ #1,5;E
2190 E=E+1
2200 REM CREATE A VIRTUAL DONOR FILE
2210 IF Newdonor$="N" THEN 2260
2220 IF Newdonor$="Y" THEN 2230

```

DONOR

```

2230 PRINT #1,1;S:I
2240 PRINT #1,2;""
2250 IF Newdonor$="N" THEN 2280
2260 PRINT #1,3;Firstname$
2270 PRINT #1,4;Lastname$
2280 PRINT #1,5;E
2290 PRINT #1,6;""
2300 PRINT #1,7;""
2310 PRINT #1,8;""
2320 PRINT #1,9;""
2330 PRINT #1,E*20;Date$
2340 PRINT #1,E*20+1;Dmsoinfused$
2350 PRINT #1,E*20+2;Cr51$
2360 PRINT #1,E*20+3;I125$
2370 PRINT #1,E*20+4;Indium111$
2380 PRINT #1,E*20+5;Method$
2390 PRINT #1,E*20+6;Types$
2400 PRINT #1,E*20+7;Kind$
2410 PRINT #1,E*20+8;Rejuvsoln$
2420 PRINT #1,E*20+9;Reactions$
2430 PRINT #1,E*20+10;Autotrans$
2440 PRINT #1,E*20+11;Code$
2450 PRINT #1,E*20+12;Dmsococonc$
2460 PRINT #1,E*20+13;Washsoln$
2470 PRINT #1,E*20+14;Comments$
2480 PRINT #1,E*20+15;Volume$
2490 PRINT #1,E*20+16;Comments2$
2500 PRINT #1,E*20+17;""
2510 PRINT #1,E*20+18;""
2520 PRINT #1,E*20+19;""
2530 REM LIST DONOR IF NEW IN REGIS
2540 IF Newdonor$="N" THEN 2630
2550 IF Newdonor$="Y" THEN 2560
2560 ASSIGN #5 TO "REGIS:F8"
2570 READ #5,1;P
2580 P=P+1
2590 PRINT #5,1;P
2600 PRINT #5,P+1;S$;,Disk
2610 PRINT
2620 PRINT
2630 PRINT "END"
2640 PRINT
2650 PRINT
2660 LINPUT "ANOTHER DONOR? (Y/N)",Another$
2670 IF Another$="Y" THEN 90
2680 PRINT
2690 PRINT PAGE
2700 DISP "SELECT ANY PROGRAM"
2710 MASS STORAGE IS ":F8"
2720 END
2730 PRINT
2740 PRINT
2750 Records=E*30+400
2760 CREATE "TEMP",Records,15
2770 ASSIGN #1 TO File$
2780 ASSIGN #2 TO "TEMP"
2790 READ #1,1;Ra$
2800 READ #1,3;Dd$

```

DONOR

```

2810 READ #1,4;Dd1$
2820 READ #1,5;Ee
2830 PRINT #2,1;Aa$
2840 PRINT #2,2;" "
2850 PRINT #2,3;Dd$
2860 PRINT #2,4;Dd1$
2870 PRINT #2,5;Ee-1
2880 PRINT #2,6;" "
2890 PRINT #2,7;" "
2900 PRINT #2,8;" "
2910 PRINT #2,9;" "
2920 FOR I=1 TO Ee-1
2930   E1=20*I
2940   READ #1,E1;Mm$
2950   READ #1,E1+1;Ww$
2960   READ #1,E1+2;Xx$
2970   READ #1,E1+3;Yy$
2980   READ #1,E1+4;Zz$
2990   READ #1,E1+5;Ff$
3000   READ #1,E1+6;Gg$
3010   READ #1,E1+7;Hh$
3020   READ #1,E1+8;Ii$
3030   READ #1,E1+9;Pp5$
3040   READ #1,E1+10;Bb$
3050   READ #1,E1+11;Cc$
3060   READ #1,E1+12;Ww1$
3070   READ #1,E1+13;Wwashsoln$
3080   READ #1,E1+14;Ccomments$
3090   READ #1,E1+15;Vvolume$
3100   READ #1,E1+16;Ccomments2$
3110   PRINT #2,E1;Mm$
3120   PRINT #2,E1+1;Ww$
3130   PRINT #2,E1+2;Xx$
3140   PRINT #2,E1+3;Yy$
3150   PRINT #2,E1+4;Zz$
3160   PRINT #2,E1+5;Ff$
3170   PRINT #2,E1+6;Gg$
3180   PRINT #2,E1+7;Hh$
3190   PRINT #2,E1+8;Ii$
3200   PRINT #2,E1+9;Pp5$
3210   PRINT #2,E1+10;Bb$
3220   PRINT #2,E1+11;Cc$
3230   PRINT #2,E1+12;Ww1$
3240   PRINT #2,E1+13;Wwashsoln$
3250   PRINT #2,E1+14;Ccomments$
3260   PRINT #2,E1+15;Vvolume$
3270   PRINT #2,E1+16;Ccomments2$
3280   PRINT #2,E1+17;" "
3290   PRINT #2,E1+18;" "
3300   PRINT #2,E1+19;" "
3310   NEXT I
3320 PRINT #2,5;E
3330 PRINT #2,E*20;Date$
3340 PRINT #2,E*20+1;Dmsinfused$
3350 PRINT #2,E*20+2;Cr51$
3360 PRINT #2,E*20+3;I125$
3370 PRINT #2,E*20+4;Indium111$
3380 PRINT #2,E*20+5;Method$

```

DONOR

```
3390 PRINT #2,E*20+6;Types$
3400 PRINT #2,E*20+7;Kind$
3410 PRINT #2,E*20+8;Rejuvsoln$
3420 PRINT #2,E*20+9;Reactions$
3430 PRINT #2,E*20+10;Autotrans$
3440 PRINT #2,E*20+11;Code$
3450 PRINT #2,E*20+12;Dmsococonc$
3460 PRINT #2,E*20+13;Washsoln$
3470 PRINT #2,E*20+14;Comments$
3480 PRINT #2,E*20+15;Volume$
3490 PRINT #2,E*20+16;Comments2$
3500 PRINT #2,E*20+17;" "
3510 PRINT #2,E*20+18;" "
3520 PRINT #2,E*20+19;" "
3530 PURGE File$
3540 RENAME "TEMP" TO File$
3550 GOTO 2610
```

2. PROGRAM LIST

LIST

```

10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM LIST"
60  PRINT
70  PRINT
80  MASS STORAGE IS ":F8,1"
90  INPUT "SOCIAL SECURITY NO.?",Ss$
100 IF Ss$[4;1]<>"-" THEN 140
110 IF Ss$[7;1]<>"-" THEN 140
120 IF LEN(Ss$)>11 THEN 140
130 GOTO 170
140 DISP "INCORRECT SS#--TO TRY AGAIN PRESS `CONT`"
150 PAUSE
160 GOTO 90
170 DISP "PLEASE WAIT"
180 O$=Ss$[5,6]
190 P$=Ss$[8,11]
200 File$=O$&P$
210 ASSIGN #5 TO "REGIS:F8"
220 READ #5,1;P
230 FOR I=P+1 TO 2 STEP -1
240   READ #5,I;Ss1$,Disk
250   IF Ss1$=Ss$ THEN 290
260   NEXT I
270 IF Ss1$<>Ss$ THEN PRINT "DONOR NOT FOUND"
280 GOTO 1670
290 DISP "INSERT DISK NO.:";Disk;" PRESS `CONT`"
300 PAUSE
310 ASSIGN #3 TO "Number"
320 READ #3,1;Number,Disktype$
330 IF Disktype$<>"M" THEN 350
340 IF Disk=Number THEN 380
350 DISP "WRONG DISK, INSERT NO.:";Disk;" PRESS `CONT`"
360 PAUSE
370 GOTO 310
380 ASSIGN #1 TO File$
390 READ #1,5;E
400 INPUT "DO YOU WANT A PRINTED COPY? (Y/N)",Hardcopy$
410 IF Hardcopy$="N" THEN 450
420 IF Hardcopy$="Y" THEN 440
430 IF (Hardcopy$<>"N") AND (Hardcopy$<>"Y") THEN 400
440 PRINTER IS 0
450 INPUT "DO YOU WANT ALL DONATIONS LISTED? (Y/N)",All$
460 GOTO 480
470 INPUT "ALL DONATIONS LISTED? (Y/N)",All$
480 IF All$="Y" THEN 650
490 IF All$="N" THEN 500
500 PRINT
510 PRINT
520 PRINT "DONATION DATES:"
530 PRINT
540 FOR I=1 TO E
550   E2=20*I
560   READ #1,E2;Date$
570   PRINT
580   PRINT Date$,"DONATION NO.";I

```

LIST

```

590 NEXT I
600 PRINT
610 PRINT
620 INPUT "WHICH DONATION NUMBER DO YOU WANT FIRST?",T
630 T1=T+20
640 GOTO 1180
650 PRINT
660 PRINT
670 READ #1,1;Ss$
680 READ #1,3;Firstname$
690 READ #1,4;Lastname$
700 READ #1,5;E
710 PRINT SPA(9);"SOCIAL SECURITY NO.: ";Ss$
720 PRINT SPA(24);"NAME: ";Firstname$;SPA(1);Lastname$
730 PRINT SPA(12);"NO. OF DONATIONS: ";E
740 PRINT SPA(24);"DISK: ";Disk
750 PRINT
760 PRINT
770 FOR J=1 TO E
780 E1=20*J
790 READ #1,E1;Date$
800 READ #1,E1+10;Autotrans$
810 READ #1,E1+11;Code$
820 READ #1,E1+12;Dmsconc$
830 READ #1,E1+1;Dmsinfused$
840 READ #1,E1+2;Cr51$
850 READ #1,E1+3;I125$
860 READ #1,E1+4;Indium111$
870 READ #1,E1+5;Method$
880 READ #1,E1+6;Type$
890 READ #1,E1+7;Kind$
900 READ #1,E1+8;Rejuvsoln$
910 READ #1,E1+9;Reactions$
920 READ #1,E1+13;Washsoln$
930 READ #1,E1+14;Comments$
940 READ #1,E1+15;Volume$
950 READ #1,E1+16;Comments2$
960 PRINT
970 PRINT
980 PRINT SPA(16);"DONATION NO.: ";J
990 PRINT SPA(24);"DATE: ";Date$
1000 PRINT SPA(8);"METHOD OF COLLECTION: ";Method$
1010 PRINT SPA(4);"TYPES OF CELLS AND STUDY: ";Type$
1020 PRINT SPA(10);"BLOOD VOLUME DRAWN: ";Volume$;" MLS"
1030 PRINT "KIND OF STORAGE AND CELL AGE: ";Kind$
1040 PRINT SPA(7);"REJUVENATION SOLUTION: ";Rejuvsoln$
1050 PRINT SPA(23);"51-CR: ";Cr51$;" MICROCURIES"
1060 PRINT SPA(23);"125-I: ";I125$;" MICROCURIES"
1070 PRINT SPA(18);"111-INDIUM: ";Indium111$;" MICROCURIES"
1080 PRINT SPA(10);"DMSO CONCENTRATION: ";Dmsconc$;"%"
1090 PRINT SPA(7);"RESIDUAL DMSO INFUSED: ";Dmsinfused$;" MG"
1100 PRINT SPA(9);"AUTOTRANSFUSION NO.: ";Autotrans$
1110 PRINT SPA(12);"SPECIAL CODE NO.: ";Code$
1120 PRINT SPA(19);"REACTIONS: ";Reactions$
1130 PRINT SPA(15);"WASH SOLUTION: ";Washsoln$
1140 PRINT SPA(20);"COMMENTS: ";Comments$
1150 PRINT SPA(15);"MORE COMMENTS: ";Comments2$
1160 NEXT J

```

LIST

```

1170 GOTO 1670
1180 PRINT
1190 PRINT
1200 READ #1,1;Ss$
1210 READ #1,3;Firstname$
1220 READ #1,4;Lastname$
1230 READ #1,T1;Date$
1240 READ #1,T1+10;Autotrans$
1250 READ #1,T1+11;Code$
1260 READ #1,T1+12;Dmsococonc$
1270 READ #1,T1+1;Dmsoinfused$
1280 READ #1,T1+2;Cr51$
1290 READ #1,T1+3;I125$
1300 READ #1,T1+4;Indium111$
1310 READ #1,T1+5;Method$
1320 READ #1,T1+6;Type$
1330 READ #1,T1+7;kind$
1340 READ #1,T1+8;Rejuvsoln$
1350 READ #1,T1+9;Reactions$
1360 READ #1,T1+13;Washsoln$
1370 READ #1,T1+14;Comments$
1380 READ #1,T1+15;Volume$
1390 READ #1,T1+16;Comments2$
1400 PRINT SPAC(24);"NAME: ";Firstname$;SPAC(1);Lastname$
1410 PRINT SPAC(9);"SOCIAL SECURITY NO.: ";Ss$
1420 PRINT SPAC(24);"DISK: ";Disk
1430 PRINT SPAC(24);"DATE: ";Date$
1440 PRINT SPAC(16);"DONATION NO.: ";T
1450 PRINT SPAC(8);"METHOD OF COLLECTION: ";Method$
1460 PRINT SPAC(4);"TYPES OF CELLS AND STUDY: ";Type$
1470 PRINT SPAC(10);"BLOOD VOLUME DRAWN: ";Volume$;" MLS"
1480 PRINT "KIND OF STORAGE AND CELL AGE: ";Kind$
1490 PRINT SPAC(7);"REJUVENATION SOLUTION: ";Rejuvsoln$
1500 PRINT SPAC(23);"51-CR: ";Cr51$;" MICROCURIES"
1510 PRINT SPAC(23);"125-I: ";I125$;" MICROCURIES"
1520 PRINT SPAC(18);"111-INDIUM: ";Indium111$;" MICROCURIES"
1530 PRINT SPAC(10);"DMSO CONCENTRATION: ";Dmsococonc$;"%"
1540 PRINT SPAC(7);"RESIDUAL DMSO INFUSED: ";Dmsoinfused$;" MG"
1550 PRINT SPAC(9);"AUTOTRANSFUSION NO.: ";Autotrans$
1560 PRINT SPAC(12);"SPECIAL CODE NO.: ";Code$
1570 PRINT SPAC(19);"REACTIONS: ";Reactions$
1580 PRINT SPAC(15);"WASH SOLUTION: ";Washsoln$
1590 PRINT SPAC(20);"COMMENTS: ";Comments$
1600 PRINT SPAC(15);"MORE COMMENTS: ";Comments2$
1610 PRINT
1620 PRINT
1630 INPUT "WHICH DONATION NEXT? 0 FOR NONE",T
1640 IF T=0 THEN 1670
1650 T1=T+20
1660 GOTO 1180
1670 PRINT
1680 PRINT
1690 PRINT "END"
1700 LINE INPUT "ANOTHER DONOR? (Y/N)",Another$

```

LIST

```
1710 PRINTER IS 16
1720 IF Another$="Y" THEN 80
1730 MASS STORAGE IS ":F8"
1740 PRINTER IS 16
1750 PRINT
1760 PRINT PAGE
1770 DISP "SELECT ANY PROGRAM"
1780 PRINT
1790 PRINT
1800 END
```

3. PROGRAM SOCIAL

SOCIAL

```
10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM SOCIAL"
60  PRINT
70  PRINT
80  MASS STORAGE IS ":F8"
90  PRINT
100 PRINT
110 INPUT "DO YOU WANT A PRINTED COPY? (Y/N)",Hardcopy$
120 IF Hardcopy$="N" THEN 140
130 IF Hardcopy$="Y" THEN PRINTER IS 0
140 ASSIGN #5 TO "REGIS"
150 READ #5,1;P
160 PRINT "NO. OF DONORS: ";P
170 PRINT
171 INPUT "START WITH WHICH DISK?",Diskk
180 PRINT "SOC. SEC. NO.:"
190 PRINT
200 FOR I=(Diskk-1)*50+2 TO P+1
210   READ #5,I;Ss$,Disk
220   PRINT Ss$;SPA(5);"DISK";SPA(1);Disk
230 NEXT I
240 PRINT
250 PRINT
260 PRINT
270 PRINT "END"
280 PRINTER IS 16
290 PRINT PAGE
300 DISP "SELECT ANY PROGRAM"
310 END
```

4. PROGRAM SELECT

SELECT

```

10 PRINTER IS 16
20 PRINT PAGE
30 PRINT "BLISS"
40 PRINT
50 PRINT "PROGRAM SELECT"
60 PRINT
70 PRINT
80 PRINT
90 DIM Z$(24),R$(24)
100 Q$="0"
110 PRINT "V776";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V776)"
120 PRINT "A772";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC A772)"
130 PRINT "V1035";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V1035)"
140 PRINT "CPD";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE--STANDARD COLLECTION BAG)"
150 PRINT "ACD";TAB(10);"(ACID CITRATE DEXTROSE)"
160 PRINT "CPDA1";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE-ADENINE 1)"
170 PRINT "CPDA2";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE-ADENINE 2)"
180 PRINT "CPDA3";TAB(10);"(CITRATE-PHOSPHATE DEXTROSE-ADENINE 3)"
190 PRINT "HEP";TAB(10);"(HEPARIN)"
200 PRINT "RCPD";TAB(10);"(1 UNIT RBC RETURNED; CPD)"
210 PRINT "RACD";TAB(10);"(1 UNIT RBC RETURNED; ACD)"
220 PRINT "2 RCPD";TAB(10);"(2 UNITS RBC RETURNED; CPD)"
230 PRINT "2 RACD";TAB(10);"(2 UNITS RBC RETURNED; ACD)"
240 PRINT "RCPDA1";TAB(10);"(RBC RETURNED CPDA1)"
250 PRINT "RCPDA2";TAB(10);"(RBC RETURNED CPDA2)"
260 PRINT "RCPDA3";TAB(10);"(RBC RETURNED CPDA3)"
270 PRINT "ADL";TAB(10);"(PHERESIS)"
280 PRINT "IBM";TAB(10);"(PHERESIS)"
290 PRINT "FENWAL";TAB(10);"(PHERESIS)"
300 PRINT "OTHER";TAB(10);"(MISCELLANEOUS)"
310 INPUT "METHOD OF COLLECTION (0 IF NOT INTERESTED)",F3$
320 IF F3$="0" THEN 350
330 Z$=F3$
340 GOTO 370
350 Z$=Q$
360 P4$=Q$
370 PRINT PAGE
380 PRINT "RBCTX";TAB(10);"(RED CELL TRANSFUSION - 80 ML)"
390 PRINT "RBCDR";TAB(10);"(RED CELL UNIT DRAW - 450 ML)"
400 PRINT "PLTTX";TAB(10);"(PLATELET TRANSFUSION - 80 ML)"
410 PRINT "PLTDR";TAB(10);"(PLATELET DRAW - 12 ML)"
420 PRINT "WBCTX";TAB(10);"(WHITE BLOOD CELL TRANSFUSION - 80 ML)"
430 PRINT "WBCDR";TAB(10);"(WHITE BLOOD CELL DRAW - 12 ML)"
440 PRINT "SSAMP";TAB(10);"(1-50 ML SAMPLE - 50)"
450 PRINT "LSAMP";TAB(10);"(GREATER THAN 50 ML SAMPLE - 100)"
460 PRINT "EYE";TAB(10);"(EYE EXAM)"
470 PRINT "BONEM";TAB(10);"(BONE MARROW - 75 ML)"
480 PRINT "PBSTEM";TAB(10);"(PERIPHERAL BLOOD STEM CELLS - 50 ML)"
490 PRINT "NEOCTX";TAB(10);"(NEOCYTE TRANSFUSION - 120 ML)"
500 PRINT "NEOCDR";TAB(10);"(NEOCYTE DRAW - 450 ML)"
510 INPUT "TYPES OF CELLS & STUDY? (0 IF NOT INTERESTED)",G3$
520 IF G3$="0" THEN 550
530 Z$=Z$&G3$
540 GOTO 570
550 Z$=Z$&Q$
560 P5$=Q$
570 PRINT PAGE
580 PRINT "LIQOU";TAB(10);"(LIQUID OUTDATED)"

```


SELECT

```

590 PRINT "LIQIN";TAB(10);"<LIQUID INDATED>"
600 PRINT "FZNOUM";TAB(10);"<FROZEN, OUTDATED, MECHANICAL>"
610 PRINT "FZNINM";TAB(10);"<FROZEN, INDATED, MECHANICAL>"
620 PRINT "FZNOUL";TAB(10);"<FROZEN, OUTDATED, LIQUID NITROGEN>"
630 PRINT "FZNINL";TAB(10);"<FROZEN, INDATED, LIQUID NITROGEN>"
640 PRINT "NOT FZN";TAB(10);"<NOT FROZEN>"
650 INPUT "KIND OF CELLS & STORAGE AGE? (<0 IF NOT INTERESTED>)",H3$
660 IF H3$="0" THEN 690
670 Z$=Z$&H3$
680 GOTO 710
690 Z$=Z$&Q$
700 P6$=Q$
710 PRINT PAGE
720 PRINT "PIGPA";TAB(10);"<PIGPA SOLUTION A>"
730 PRINT "PIGPAB";TAB(10);"<PIGPA SOLUTION B>"
740 PRINT "PIGPAC";TAB(10);"<PIGPAC SOLUTION C>"
750 PRINT "PIPAR";TAB(10);"<PIPA (NO GLUCOSE) SOLUTION A>"
760 PRINT "PIPAB";TAB(10);"<PIPA (NO GLUCOSE) SOLUTION B>"
770 PRINT "PIPAC";TAB(10);"<PIPA (NO GLUCOSE) SOLUTION C>"
780 PRINT "FRES";TAB(10);"<FENWAL REJUVENATION SOLUTION>"
790 PRINT "NR";TAB(10);"<NON-REJUVENATED>"
800 INPUT "REJUVENATION SOLUTION? (<0 IF NOT INTERESTED>)",I3$
810 IF I3$="0" THEN 840
820 Z$=Z$&I3$
830 GOTO 890
840 Z$=Z$&Q$
850 P7$=Q$
860 PRINT
870 PRINT
880 PRINT
890 INPUT "DO YOU WANT A PRINTED COPY? (Y/N)",Hardcopy$
900 IF Hardcopy$="N" THEN PRINT PAGE
910 IF Hardcopy$="N" THEN 930
920 PRINTER IS 0
930 PRINT LIN(3);"-----"
940 PRINT "COMBINATION:"
950 PRINT "-----"
960 PRINT
970 PRINT F3$
980 PRINT G3$
990 PRINT H3$
1000 PRINT I3$
1010 PRINT
1020 PRINT
1030 DISP "INSERT ANY MAIN DISK, PRESS 'CONT'."
1040 PAUSE
1050 C=0
1060 ASSIGN #3 TO "Number:F8,1"
1070 READ #3,1;Number
1080 PRINT
1090 PRINT "DONATIONS MEETING ABOVE COMBINATION"
1100 PRINT "ON DISK # ";Number
1110 PRINT "-----"
1120 PRINT
1130 PRINT
1140 MASS STORAGE IS ":F8,1"
1150 ASSIGN #5 TO "REGIS:F8"
1160 ON END #5 GOTO 1250

```

SELECT

```

1170 FOR R=(Number-1)*50+2 TO Number*50+1
1180 READ #5,R;Ss$
1190 O$=Ss$[5,6]
1200 P$=Ss$[8,11]
1210 File$=O$&P$
1220 ASSIGN #1 TO File$
1230 GOSUB 1470
1240 NEXT R
1250 OFF END #5
1260 IF C>0 THEN 1320
1270 PRINT
1280 PRINT "NONE"
1290 PRINT
1300 PRINT
1310 PRINT "END"
1320 LINPUT "SAME COMBINATION ON ANOTHER DISK? (Y/N)",Samecombo$
1330 IF Samecombo$="Y" THEN 1030
1340 LINPUT "ANOTHER COMBINATION? (Y/N)",Another$
1350 PRINT
1360 PRINT
1370 PRINT "END"
1380 PRINTER IS 16
1390 PRINT PAGE
1400 IF Another$="Y" THEN 100
1410 PRINT
1420 MASS STORAGE IS ":F8"
1430 PRINT
1440 PRINT PAGE
1450 DISP "SELECT ANY COMBINATION"
1460 END
1470 READ #1,5;E
1480 FOR R2=1 TO E
1490 R3=R2*20
1500 READ #1,R3+5;Method$
1510 IF Method$<>F3$ THEN Method$="0"
1520 P4$=TRIM$(Method$)
1530 READ #1,R3+6;Types$
1540 IF Types$<>G3$ THEN Types$="0"
1550 P5$=TRIM$(Types$)
1560 READ #1,R3+7;Kind$
1570 IF Kind$<>H3$ THEN Kind$="0"
1580 P6$=TRIM$(Kind$)
1590 READ #1,R3+8;Rejuvsoln$
1600 IF Rejuvsoln$<>I3$ THEN Rejuvsoln$="0"
1610 P7$=TRIM$(Rejuvsoln$)
1620 R8$=P4$&P5$&P6$&P7$
1630 IF R8$=Z$ THEN 1660
1640 NEXT R2
1650 RETURN
1660 READ #1,1;Ss$
1670 READ #1,3;Firstname$
1680 READ #1,4;Lastname$
1690 READ #1,R3;Date$
1700 IF Ss$=Ss1$ THEN 1760
1710 PRINT
1720 PRINT

```

SELECT

```
1730 PRINT
1740 PRINT "SOCIAL SECURITY NO.: ";Ss$
1750 PRINT SPA(15);"NAME: ";Firstname$;SPA(1);Lastname$
1760 PRINT SPA(6);"DONATION DATE: ";Date$
1770 Ss1$=Ss$
1780 C=C+1
1790 GOTO 1640
```

5. PROGRAM ALERT

ALERT

```

10 PRINTER IS 16
20 PRINT PAGE
30 PRINT "BLISS"
40 PRINT
50 PRINT "PROGRAM ALERT"
60 PRINT
70 PRINT
80 PRINT
90 MASS STORAGE IS ":F8,1"
100 PRINTER IS 16
110 PRINT
120 LINPUT "DO YOU WANT A PRINTED COPY? (Y/N)",Hardcopy$
130 LINPUT "SOCIAL SECURITY NO.?",Ss$
140 DISP "PLEASE WAIT"
150 O$=Ss$[5,6]
160 P$=Ss$[8,11]
170 File$=O$&P$
180 ASSIGN #5 TO "REGIS:F8"
190 READ #5,1;P
200 FOR I=P+1 TO 2 STEP -1
210   READ #5,I;Ss1$,Disk
220   IF Ss1$=Ss$ THEN 260
230   NEXT I
240 IF Ss1$<>Ss$ THEN PRINT "DONOR NOT FOUND"
250 GOTO 2170
260 DISP "INSERT DISK NO.: ";Disk;" PRESS 'CONT'"
270 PAUSE
280 ASSIGN #3 TO "Number"
290 READ #3,1;Number,Disktype$
300 IF Disktype$<>"M" THEN 330
310 IF Disk=Number THEN 360
320 PRINT
330 DISP "WRONG DISK, INSERT NO.: ";Disk;"PRESS 'CONT'"
340 PAUSE
350 GOTO 280
360 PRINT
370 PRINT
380 GOTO 410
390 DISP "DATE IS INVALID--PRESS 'STOP' AND 'RUN' TO START OVER"
400 PAUSE
410 LINPUT "TODAY'S DATE (MM-DD-YY)",Todaysdate$
420 PRINT
430 PRINT "RBCTX";TAB(10);"(RED CELL TRANSFUSION)"
440 PRINT "RBCDR";TAB(10);"(RED CELL UNIT DRAW)"
450 PRINT "PLTTX";TAB(10);"(PLATELET TRANSFUSION)"
460 PRINT "PLTDR";TAB(10);"(PLATELET DRAW)"
470 PRINT "PLTDRPRP";TAB(10);"(PLATELET DRAW-PLATELET RICH PLASMA)"
480 PRINT "PLTDRPPP";TAB(10);"(PLATELET DRAW-PLATELET POOR PLASMA)"
490 PRINT "WBCTX";TAB(10);"(WHITE BLOOD CELL TRANSFUSION)"
500 PRINT "WBCDR";TAB(10);"(WHITE BLOOD CELL DRAW)"
510 PRINT "SSAMP";TAB(10);"(1-50 ML SAMPLE)"
520 PRINT "LSAMP";TAB(10);"(GREATER THAN 50 ML SAMPLE)"
530 PRINT "EYE";TAB(10);"(EYE EXAM)"
540 PRINT "BONEM";TAB(10);"(BONE MARROW)"
550 PRINT "PBSTEM";TAB(10);"(PERIPHERAL BLOOD STEM CELLS)"
560 PRINT "NEOCTX";TAB(10);"(NEOCYTES TRANSFUSION)"
570 PRINT "NEOCDR";TAB(10);"(NEOCYTE DRAW)"
580 PRINT

```

ALERT

```

590 INPUT "WHAT TYPE OF STUDY DO YOU INTEND TO DO?",Studytype$
600 INPUT "VOLUME OF BLOOD YOU INTEND TO DRAW?",Studyvolume
610 IF Hardcopy$="N" THEN 630
620 PRINTER IS 0
630 ASSIGN #1 TO File$
640 PRINT
650 READ #1,3;Firstname$ -
660 READ #1,4;Lastname$
670 PRINT SPA(11);"DONOR NAME: ";Firstname$;SPA(1);Lastname$
680 PRINT SPA(2);"SOCIAL SECURITY NO.: ";Ss$
690 PRINT SPA(9);"TODAY'S DATE: ";Todaysdate$
700 PRINT SPA(8);"STUDY PLANNED: ";Studytype$
710 PRINT SPA(3);"VOLUME TO BE DRAWN: ";Studyvolume;"ML"
720 PRINT LIN(2);"-----"
730 PRINT "RADIOACTIVITY AND DMSO DATA"
740 PRINT "-----"
750 PRINT
760 READ #1,5;E
770 Pass=0
780 FOR B4=1 TO E
790   E1=20*B4
800   READ #1,E1;Date$
810   READ #1,E1+12;Dmsococonc$
820   READ #1,E1+1;Dmsoinfused$
830   READ #1,E1+2;Cr51$
840   READ #1,E1+3;I125$
850   READ #1,E1+4;Indium111$
860   IF Dmsococonc$<>"0" THEN 920
870   IF Dmsoinfused$<>"0" THEN 920
880   IF Cr51$<>"0" THEN 920
890   IF I125$<>"0" THEN 920
900   IF Indium111$<>"0" THEN 920
910   GOTO 1000
920   PRINT SPA(17);"DATE: ";Date$
930   PRINT SPA(3);"DMSO CONCENTRATION: ";Dmsococonc$;"%"
940   PRINT "RESIDUAL DMSO INFUSED: ";Dmsoinfused$;SPA(1);"MG"
950   PRINT SPA(16);"51-CR: ";Cr51$;SPA(1);"MICROCURIES"
960   PRINT SPA(16);"125-I: ";I125$;SPA(1);"MICROCURIES"
970   PRINT SPA(11);"111-INDIUM: ";Indium111$;SPA(1);"MICROCURIES"
980   Pass=Pass+1
990   PRINT
1000  NEXT B4
1010  IF Pass=0 THEN PRINT SPA(5);"NONE"
1020  IF Pass=0 THEN PRINT LIN(2)
1030  PRINT "-----"
1040  PRINT "REACTIONS ALERT"
1050  PRINT "-----"
1060  PRINT
1070  R=0
1080  FOR B5=1 TO E
1090    E2=20*B5
1100    READ #1,E2+9;Reactions$
1110    IF Reactions$="0" THEN 1170
1120    R=R+1
1130    PRINT SPA(13);"REACTION: ";Reactions$
1140    READ #1,E2;Date$
1150    PRINT SPA(17);"DATE: ";Date$
1160    PRINT

```

ALERT

```

1170 NEXT B5
1180 IF R=0 THEN PRINT SPA(5); "NONE"
1190 IF R=0 THEN PRINT
1200 DISP "PLEASE WAIT"
1210 REM TODAYS DATE IS TERM. DATE
1220 GOSUB 2250
1230 Lifetime=0
1240 F3=0
1250 FOR B6=1 TO E
1260 E3=B6*20
1270 READ #1,E3+6;Types$
1280 IF Types$="RBCTX" THEN 1320
1290 IF Types$="PLTTX" THEN 1320
1300 IF Types$="WBCTX" THEN 1320
1310 GOTO 1450
1320 Lifetime=Lifetime+1
1330 READ #1,E3;Date$
1340 GOSUB 2320
1350 GOSUB 2390
1360 IF Z>90 THEN 1450
1370 IF Z<=90 THEN 1380
1380 PRINT "-----"
1390 PRINT "RADIOACTIVITY ALERT"
1400 PRINT "-----"
1410 PRINT
1420 PRINT SPA(5); "STOP--DO NOT USE THIS DONOR"
1430 PRINT SPA(5);Types$; "--PERFORMED WITHIN THE LAST 90 DAYS"
1440 PRINT
1450 NEXT B6
1460 IF Lifetime<=4 THEN 1530
1470 PRINT "-----"
1480 PRINT "LIFETIME RADIOACTIVITY ALERT"
1490 PRINT "-----"
1500 PRINT
1510 PRINT SPA(5); "STOP--DO NOT USE THIS DONOR"
1520 PRINT SPA(5); "DONOR WILL EXCEED 5 STUDIES INVOLVING RADIATION"
1530 REM BLOOD VOLUME ALERT
1540 F3=0
1550 F2=0
1560 PRINT LIN(1); "-----"
1570 PRINT "BLOOD VOLUME ALERT"
1580 PRINT "-----"
1590 Volumealert=0
1600 Volume$="0"
1610 FOR B7=1 TO E
1620 E4=20*B7
1630 READ #1,E4;Date$
1640 READ #1,E4+15;Volume$
1650 READ #1,E4+6;Types$
1660 IF Types$="PLTDRPRP" THEN 1750
1670 IF Types$="PLTDRPPF" THEN 1750
1680 GOSUB 2320
1690 GOSUB 2390
1700 IF Z>=31 THEN 1730
1710 IF Types$="PLTDR" THEN F3=F3+1
1720 IF Types$="WBCCR" THEN F3=F3+1
1730 IF Z>60 THEN 1750
1740 IF Z<=60 THEN Volumealert=Volumealert+VAL(Volume$)

```

ALERT

```

1750 NEXT B7
1760 IF Volumealert+Studyvolume>500 THEN 1840
1770 IF Volumealert+Studyvolume<=500 THEN 2020
1780 PRINT LIN(1);"-----"
1790 PRINT "DRAW ALERT"
1800 PRINT "-----"
1810 PRINT
1820 IF F3>=12 THEN 1890
1830 IF F3<12 THEN 2090
1840 PRINT
1850 PRINT SPA(5);"STOP--DO NOT USE THIS DONOR"
1860 PRINT SPA(4);Volumealert;"ML/60 DAYS PLUS";Studyvolume;"WILL EXCEED LIMIT"
1870 PRINT
1880 GOTO 1780
1890 PRINT
1900 PRINT SPA(5);"STOP--DO NOT USE THIS DONOR"
1910 PRINT SPA(4);F3;"DRAWS IN 30 DAYS WILL EXCEED LIMIT"
1920 PRINT
1930 PRINT
1940 PRINT "END"
1950 PRINT
1960 PRINT
1970 INPUT "ANOTHER DONOR? (Y/N)",Another$
1980 IF Another$="Y" THEN 110
1990 DISP "SELECT ANY PROGRAM"
2000 MASS STORAGE IS ":F8"
2010 END
2020 PRINT
2030 PRINT
2040 PRINT SPA(5);"NONE"
2050 PRINT
2060 GOTO 1780
2070 PRINT
2080 PRINT
2090 PRINT SPA(5);"NONE"
2100 PRINT
2110 PRINT
2120 PRINT
2130 PRINT
2140 PRINT "END"
2150 PRINT
2160 PRINTER IS 16
2170 PRINT
2180 INPUT "ANOTHER DONOR? (Y/N)",Another$
2190 IF Another$="Y" THEN 110
2200 PRINT "END"
2210 MASS STORAGE IS ":F8"
2220 PRINT PAGE
2230 DISP "SELECT ANY PROGRAM"
2240 END
2250 G1$=Today$DATE$[1,2]
2260 L1=VAL(G1$)
2270 G2$=Today$DATE$[4,5]
2280 C1=VAL(G2$)
2290 G3$=Today$DATE$[7,8]
2300 V1=VAL(G3$)
2310 RETURN
2320 G4$=Date$[1,2]

```


ALERT

```
2330 M1=VAL(G4$)
2340 G5$=Date$[4,5]
2350 D1=VAL(G5$)
2360 G6$=Date$[7,8]
2370 Y1=VAL(G6$)
2380 RETURN
2390 Z=0
2400 B=Y1
2410 F=V1
2420 IF M1*100+D1<229 THEN 2440
2430 B=Y1+1
2440 IF L1*100+C1>228 THEN 2460
2450 F=V1-1
2460 B=INT((B+3)/4)
2470 IF 4*B<=F THEN 2500
2480 B=0
2490 GOTO 2510
2500 B=INT(F/4)-B+1
2510 IF L1>=M1 THEN 2540
2520 L1=12+L1
2530 V1=V1-1
2540 FOR I=M1 TO M1-1
2550   J=I-INT((I-1)/12)*12
2560   IF J=4 THEN 2620
2570   IF J=6 THEN 2620
2580   IF J=9 THEN 2620
2590   IF J=11 THEN 2620
2600   IF J=2 THEN 2640
2610   GOTO 2650
2620   B=B-1
2630   GOTO 2650
2640   B=B-3
2650 NEXT I
2660 REM Z IS NUMBER OF DAYS
2670 Z=365*(V1-Y1)+31*(L1-M1)+C1-D1+B
2680 IF Z<0 THEN 390
2690 RETURN
```

6. PROGRAM HOW-TO

HOW-TO

```

10  PRINTER IS 16
20  PRINT PAGE
30  INPUT "DO YOU WANT A PRINTED COPY OF THESE INSTRUCTIONS? (Y/N)",Hardcopy$
40  IF Hardcopy$="Y" THEN PRINTER IS 0
50  PRINT "      WELCOME TO THE  BLOOD INFORMATION AND SECURITY SYSTEM  KNOWN A
S:"
60  PRINT "      -      -----"
70  PRINT
80  PRINT "      B L I S S "
90  PRINT "      ----- "
100 PRINT
110 PRINT
120 PRINT
130 PRINT TAB(10);"THIS SET OF SIX MAIN AND FOUR PERIPHERAL PROGRAMS WAS DESIG
NED BY"
140 PRINT "DR. NICHOLAS CATSIMPOOLAS AND ADAPTED FOR USE ON THE MODELS 9835 AN
D 9845"
150 PRINT "HEWLETT-PACKARD DESK-TOP COMPUTERS BY STINA COOKE FOR THE NAVAL BLO
OD RESEARCH"
160 PRINT "LABORATORY IN BOSTON."
170 PRINT
180 PRINT TAB(10);"THESE PROGRAMS STORE INFORMATION ON BLOOD DONORS, PROVIDE E
ASY ACCESS"
190 PRINT "TO DATA, WARN PERSONNEL OF EXCEEDED SAFETY LIMITS AND ALLOW THE USE
R TO SEARCH"
200 PRINT "FOR DONORS MEETING CERTAIN EXPERIMENTAL CONDITIONS."
210 PRINT
220 PRINT
230 PRINT
240 IF Hardcopy$="Y" THEN 280
250 PRINT "PRESS 'CONT' TO GO ON"
260 PAUSE
270 PRINT PAGE
280 PRINT "BLISS CONSISTS OF SIX MAIN PROGRAMS:"
290 PRINT
300 PRINT TAB(5);"DONOR";TAB(15);"GENERATES AND UPDATES AN INFORMATION FILE FO
R EACH DONOR."
310 PRINT
320 PRINT TAB(5);"SOCIAL";TAB(15);"LISTS DONOR'S SOCIAL SECURITY AND STORAGE D
ISK NUMBER."
330 PRINT
340 PRINT TAB(5);"LIST";TAB(15);"LISTS DATA FROM ALL OR SELECTED DONATIONS."
350 PRINT
360 PRINT TAB(5);"WRONG";TAB(15);"MAKES CORRECTIONS ON PREVIOUSLY ENTERED DATA
."
370 PRINT
380 PRINT TAB(5);"ALERT";TAB(15);"LISTS DMSO AND RADIOACTIVITY LEVELS PREVIOUS
LY RECEIVED,"
390 PRINT TAB(15);"AND WARNS IF DONOR SAFETY LEVELS HAVE BEEN EXCEEDED."
400 PRINT
410 PRINT TAB(5);"SELECT";TAB(15);"LISTS THE NAME, SOCIAL SECURITY NUMBER, AND
DONATION"
420 PRINT TAB(15);"DATES OF ALL DONORS HAVING A USER-GIVEN COMBINATION OF"
430 PRINT TAB(15);"EXPERIMENTAL CONDITIONS."
440 PRINT
450 PRINT
460 IF Hardcopy$="Y" THEN GOTO 500
470 PRINT "PRESS 'CONT' TO GO ON"
480 PAUSE

```

HOW-TO

```

490 PRINT PAGE
500 PRINT "AND FOUR PERIPHERAL PROGRAMS:"
510 PRINT
520 PRINT TAB(5);"HOW-TO";TAB(15);"PROVIDES INFORMATION AND INSTRUCTIONS ABOUT
THE SYSTEM."
530 PRINT TAB(15);"HOW-TO OPERATES ONLY ON MODEL 9845 AND DISPLAYS ON SCREEN"
540 PRINT TAB(15);"OR WITH OPTIONAL PAPER PRINT-OUT."
550 PRINT
560 PRINT TAB(5);"BACKUP";TAB(15);"COPIES ALL DATA FROM MAIN DISKS TO A SECOND
SET OF DISKS"
570 PRINT TAB(15);"STORED ELSEWHERE FOR EMERGENCY PURPOSES."
580 PRINT
590 PRINT TAB(5);"NUMBER";TAB(15);"CREATES A FILE CALLED 'Number' ON NEW STORA
GE DISKS WHICH"
600 PRINT TAB(15);"PREVENTS ADDING DATA TO THE WRONG DISK OR MIXING UP MAIN"
610 PRINT TAB(15);"DISKS WITH BACKUP DISKS."
620 PRINT
630 PRINT TAB(5);"FILE";TAB(15);"CREATES A FILE WHICH CAN BE USED TO STORE SOC
IAL SECURITY"
640 PRINT TAB(15);"AND STORAGE DISK NUMBERS. THIS ALLOWS THE USER TO TEST"
650 PRINT TAB(15);"PROGRAMMING CHANGES WITHOUT RISK TO ESTABLISHED DATA, OR"
660 PRINT TAB(15);"TO USE 'BLISS' TO KEEP A SEPARATE SET OF DATA NOT RELATED"
670 PRINT TAB(15);"TO THE MAIN SECURITY SYSTEM."
680 PRINT
690 IF Hardcopy$="Y" THEN GOTO 730
700 PRINT "PRESS 'CONT' TO GO ON"
710 PAUSE
720 PRINT PAGE
730 PRINT
740 PRINT
750 PRINT "TO OPERATE A PROGRAM DO THE FOLLOWING:"
760 PRINT
770 PRINT TAB(5);"1. INSERT PROGRAM DISK INTO THE TOP FLEXIBLE DISK DRIVE AND
OTHER"
780 PRINT TAB(9);"DISKS INTO THE LOWER DISK DRIVES AS CALLED FOR BY THE PROGRA
MS."
790 PRINT
800 PRINT TAB(5);"2. TYPE THE COMMAND: GET 'BLISS:F8',10,10 (USING REGULA
R"
810 PRINT TAB(9);"QUOTE MARKS). PRESS KEYBOARD KEY 'EXECUTE'."
820 PRINT
830 PRINT TAB(5);"3. PROGRAM BEGINS. PLACE BLISS OVERLAY ON THE UPPER RIGHT
HAND"
840 PRINT TAB(9);"KEYS. ALL RESPONSES EXCEPT YES & NO MUST BE FOLLOWED BY 'CON
T'."
850 PRINT
860 PRINT TAB(5);"5. BE SURE TO ANSWER ALL QUESTIONS WITHIN THE PROGRAM. IF
NOT"
870 PRINT TAB(9);"APPLICABLE, ENTER '0' AND PRESS 'CONT'."
880 PRINT
890 PRINT TAB(5);"6. IF YOU ENCOUNTER PROBLEMS AND WANT TO START OVER, PRESS"
900 PRINT TAB(9);"KEYBOARD KEYS 'STOP' AND THEN 'RUN'."
910 PRINT
920 IF Hardcopy$="Y" THEN 980
930 PRINT "PRESS 'CONT' TO GO ON"
940 PAUSE
950 PRINT PAGE
960 PRINT
970 PRINT

```

HOW-TO

```
980  PRINT
990  PRINT "OTHER INFORMATION YOU MAY NEED:"
1000 PRINT
1010 PRINT TAB(5); "1.  THE QUESTION  COMPUTER 9835 OR 9845? REFERS TO THE MODEL"
1020 PRINT TAB(9); "NUMBER SHOWN ON THE FACE OF THE MACHINE.  BLISS WILL OPERATE"
1030 PRINT TAB(9); "ON EITHER MACHINE, HOWEVER, FOR MODEL 9835, VARIABLE NAMES"
1040 PRINT TAB(9); "ARE PRESENTED ON A TYPED SHEET STORED IN THE PROGRAM DISK"
1050 PRINT TAB(9); "ENVELOPE AND PRINTED OUTPUT APPEARS IN HIGHLY ABBREVIATED"
1060 PRINT TAB(9); "FORM.  IT IS RECOMMENDED THAT YOU BECOME FAMILIAR WITH BLISS"
1070 PRINT TAB(9); "ON MODEL 9845."
1080 PRINT
1090 PRINT TAB(5); "2.  EACH PROGRAM WILL GIVE YOU THE STORAGE DISK NUMBER OF THE"
1100 PRINT TAB(9); "DONOR.  BECAUSE THE PROGRAM DISK CONTAINS THIS INFORMATION"
1110 PRINT TAB(9); "BE SURE THAT IT IS ALWAYS INSERTED INTO THE TOP DISK DRIVE."
1120 PRINT TAB(9); "INSERT OTHER DISKS AS CALLED FOR IN THE LOWER DISK DRIVES."
1130 PRINT
1140 PRINT TAB(5); "3.  PLEASE WRITE DOWN YOUR PROBLEMS AND IDEAS FOR IMPROVEMENTS"
1150 PRINT TAB(9); "AND GIVE THEM TO STINA COOKE (MON & FRI AFTERNOONS)."
1160 PRINT
1170 PRINT "END"
1180 DISP "SELECT ANY PROGRAM"
1190 PRINTER IS 16
1200 END
```

7. PROGRAM WRONG

WRONG

```

10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM WRONG"
60  PRINT
70  PRINT
80  PRINT
90  PRINT
100 PRINT " 1  SOCIAL SECURITY NO. ";TAB(41);"2  DONOR'S FIRST NAME"
110 PRINT " 3  DONOR'S LAST NAME";TAB(41);"4  DATE OF DONATION"
120 PRINT " 5  METHOD OF COLLECTION";TAB(41);"6  TYPES OF CELLS AND STUDY"
130 PRINT " 7  KIND OF STORAGE AND CELL AGE";TAB(41);"8  REJUVENATION SOLUTION"
140 PRINT " 9  51-CR RADIATION";TAB(40);"10 125-I RADIATION"
150 PRINT "11 111-INDIUM RADIATION";TAB(40);"12 DMSO CONCENTRATION"
160 PRINT "13 RESIDUAL DMSO INFUSED";TAB(40);"14 AUTOTRANSFUSION NO."
170 PRINT "15 SPECIAL CODE NO. ";TAB(40);"16 REACTIONS"
180 PRINT "17 ENTIRE DONATION";TAB(40);"18 WASH SOLUTION"
190 PRINT "19 COMMENTS";TAB(40);"20 MORE COMMENTS"
200 PRINT "21 BLOOD VOLUME"
210 PRINT
220 PRINT
230 INPUT "WHAT IS WRONG? (ITEM NUMBER)",Wrong
240 PRINT PAGE
250 IF Wrong=1 THEN 880
260 IF Same$="Y" THEN 590
270 INPUT "DONOR'S SOCIAL SECURITY NO.?",Ss$
280 IF Ss$[4;1]<>"-" THEN 320
290 IF Ss$[7;1]<>"-" THEN 320
300 IF LEN(Ss$)>11 THEN 320
310 GOTO 350
320 DISP "INCORRECT SS#--TO TRY AGAIN PRESS ^CONT^"
330 PAUSE
340 GOTO 270
350 DISP "PLEASE WAIT"
360 O$=Ss$[5,6]
370 P$=Ss$[8,11]
380 File$=O$&P$
390 MASS STORAGE IS ":F8,1"
400 ASSIGN #5 TO "REGIS:F8"
410 READ #5,1;P
420 FOR I=P+1 TO 2 STEP -1
430   READ #5,I;Ss1$,Disk
440   IF Ss1$=Ss$ THEN 480
450   NEXT I
460 IF Ss1$<>Ss$ THEN PRINT "DONOR NOT FOUND"
470 GOTO 3520
480 DISP "INSERT DISK NO.:";Disk;" PRESS ^CONT^"
490 PAUSE
500 ASSIGN #3 TO "Number"
510 READ #3,1;Number,Disktype$
520 IF Disktype$<>"M" THEN 550
530 IF Disk=Number THEN 580
540 PRINT
550 PRINT "WRONG DISK, INSERT MAIN DISK NO.:";Disk;" PRESS ^CONT^"
560 PAUSE
570 GOTO 500

```

WRONG

```

580  ASSIGN #1 TO File$
590  IF Wrong=2 THEN 1360
600  IF Wrong=3 THEN 1320
610  READ #1,5;E
620  PRINT "DONATION DATES:"
630  PRINT
640  FOR I=1 TO E
650      E2=20*I
660      READ #1,E2;Date$
670      PRINT "#";I;SPA(2);Date$
680  NEXT I
690  INPUT "DONATION NO.?",E
700  IF Wrong=4 THEN 1400
710  IF Wrong=5 THEN 1440
720  IF Wrong=6 THEN 1680
730  IF Wrong=7 THEN 1860
740  IF Wrong=8 THEN 1980
750  IF Wrong=9 THEN 2110
760  IF Wrong=10 THEN 2160
770  IF Wrong=11 THEN 2200
780  IF Wrong=12 THEN 2280
790  IF Wrong=13 THEN 2320
800  IF Wrong=14 THEN 2360
810  IF Wrong=15 THEN 2400
820  IF Wrong=16 THEN 2440
830  IF Wrong=17 THEN 1320
840  IF Wrong=18 THEN 2530
850  IF Wrong=19 THEN 2650
860  IF Wrong=20 THEN 2950
870  IF Wrong=21 THEN 2240
880  LINPUT "INCORRECT SOCIAL SECURITY NO.?",Bad$
890  DISP "PLEASE WAIT"
900  Oo$=Bad$[5,6]
910  Pp$=Bad$[8,11]
920  Wrong$=Oo$&Pp$
930  MASS STORAGE IS ":F8,1"
940  ASSIGN #5 TO "REGIS:F8"
950  READ #5,1;P
960  FOR I=P+1 TO 2 STEP -1
970      READ #5,I;Ss1$,Disk
980      Ooo$=Ss1$[5,6]
990      Ppp$=Ss1$[8,11]
1000     Ss2$=Ooo$&Ppp$
1010     IF Ss2$=Wrong$ THEN 1060
1020     NEXT I
1030     IF Ss2$<>Wrong$ THEN 1040
1040     PRINT "INCORRECT SS# NOT FOUND"
1050     GOTO 270
1060     DISP "INSERT DISK NO.";Disk;"  PRESS 'CONT'"
1070     PAUSE
1080     ASSIGN #3 TO "Number"
1090     READ #3,1;Number
1100     IF Disk=Number THEN 1150
1110     PRINT
1120     DISP "WRONG DISK, INSERT NO.:";Disk;"  PRESS 'CONT'"
1130     PAUSE
1140     GOTO 1080
1150     LINPUT "CORRECT SOCIAL SECURITY NO.?",Ss$

```


WRONG

```

1160 IF Ss#[4;1]<>"-" THEN 1200
1170 IF Ss#[7;1]<>"-" THEN 1200
1180 IF LEN(Ss#)>11 THEN 1200
1190 GOTO 1230
1200 DISP "INCORRECT SS#--TO TRY AGAIN PRESS 'CONT'"
1210 PAUSE
1220 GOTO 1150
1230 Q#=Ss#[5,6]
1240 P#=Ss#[8,11]
1250 File#=Q#&P#
1260 PRINT #5,1;Ss#,Disk
1270 ASSIGN #1 TO Wrong#
1280 RENAME Wrong# TO File#
1290 ASSIGN #1 TO File#
1300 PRINT #1,1;Ss#
1310 GOTO 3520
1320 LINPUT "LAST NAME OF DONOR",Lastname#
1330 IF Wrong=17 THEN 1360
1340 PRINT #1,4;Lastname#
1350 GOTO 3520
1360 LINPUT "FIRST NAME OF DONOR",Firstname#
1370 IF Wrong=17 THEN 1400
1380 PRINT #1,3;Firstname#
1390 GOTO 3520
1400 LINPUT "DONATION DATE IN THE FORM MM-DD-YY",Date#
1410 IF Wrong=17 THEN 1440
1420 PRINT #1,E*20;Date#
1430 GOTO 3520
1440 PRINT "V776 (CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V776)"
1450 PRINT "A772 (CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC A772)"
1460 PRINT "V1035 (CITRATE-PHOSPHATE DEXTROSE--NEW PLASTIC V1035)"
1470 PRINT "CPD (CITRATE-PHOSPHATE DEXTROSE--STANDARD COLLECTION BAG)"
1480 PRINT "ACD (ACID CITRATE DEXTROSE)"
1490 PRINT "CPDA1 (CITRATE-PHOSPHATE-DEXTROSE-ADENINE 1)"
1500 PRINT "CPDA2 (CITRATE-PHOSPHATE-DEXTROSE-ADENINE 2)"
1510 PRINT "CPDA3 (CITRATE-PHOSPHATE-DEXTROSE-ADENINE 3)"
1520 PRINT "HEP (HEPARIN)"
1530 PRINT "RCPD (1 UNIT RBC RETURNED; CPD)"
1540 PRINT "RACD (1 UNIT RBC RETURNED; ACD)"
1550 PRINT "2 RCPD (2 UNITS RBC RETURNED; CPD)"
1560 PRINT "2 RACD (2 UNITS RBC RETURNED; ACD)"
1570 PRINT "RCPDA1 (RBC RETURNED CPDA1)"
1580 PRINT "RCPDA2 (RBC RETURNED CPDA2)"
1590 PRINT "RCPDA3 (RBC RETURNED; CPDA3)"
1600 PRINT "ADL (PHERESIS)"
1610 PRINT "IBM (PHERESIS)"
1620 PRINT "FENWAL (PHERESIS)"
1630 PRINT "OTHER (MISCELLANEOUS)"
1640 LINPUT "METHOD OF COLLECTION?",Method#
1650 IF Wrong=17 THEN 1680
1660 PRINT #1,E*20+5;Method#
1670 GOTO 3520
1680 PRINT PAGE
1690 PRINT "RBCTX (RED CELL TRANSFUSION)"
1700 PRINT "RBCDP (RED CELL UNIT DRAW)"
1710 PRINT "PLTTX (PLATELET TRANSFUSION)"
1720 PRINT "PLTDR (PLATELET DRAW-WHOLE BLOOD)"
1721 PRINT "PLTDRPPP (PLATELET DRAW-PLATELET RICH PLASMA)"
1722 PRINT "PLTDRPPP (PLATELET DRAW-PLATELET POOR PLASMA)"
1730 PRINT "WBCTX (WHITE BLOOD CELL TRANSFUSION)"

```

WRONG

```

1740 PRINT "WBCDR      (WHITE BLOOD CELL DRAW)"
1750 PRINT "SSAMP      (1-50 ML SAMPLE)"
1760 PRINT "LSAMP      (GREATER THAN 50 ML SAMPLE)"
1770 PRINT "EYE        (EYE EXAM)"
1780 PRINT "BONEM      (BONE MARROW)"
1790 PRINT "PBSTEM      (PERIPHERAL BLOOD STEM CELLS)"
1800 PRINT "NEOCTX      (NEOCYTES TRANSFUSION)"
1810 PRINT "NEOCDR      (NEOCYTE DRAW)"
1820 INPUT "TYPES OF CELLS & STUDY?",Types$
1830 IF Wrong=17 THEN 1860
1840 PRINT #1,E*20+6;Types$
1850 GOTO 3520
1860 PRINT PAGE
1870 PRINT "LIQOU      (LIQUID OUTDATED)"
1880 PRINT "LIQIN      (LIQUID INDATED)"
1890 PRINT "FZNOUM      (FROZEN, OUTDATED, MECHANICAL)"
1900 PRINT "FZNINM      (FROZEN, INDATED, MECHANICAL)"
1910 PRINT "FZNOUL      (FROZEN, OUTDATED, LIQUID NITROGEN)"
1920 PRINT "FZNINL      (FROZEN, INDATED, LIQUID NITROGEN)"
1930 PRINT "NOT FZN      (NOT FROZEN)"
1940 INPUT "KIND OF STORAGE AND CELL AGE?",Kind$
1950 IF Wrong=17 THEN 1980
1960 PRINT #1,E*20+7;Kind$
1970 GOTO 3520
1980 PRINT PAGE
1990 PRINT "PIGPAA      (PIGPA SOLUTION A)"
2000 PRINT "PIGPAB      (PIGPA SOLUTION B)"
2010 PRINT "PIGPAC      (PIGPAC SOLUTION C)"
2020 PRINT "PIPA      (PIPA (NO GLUCOSE) SOLUTION A)"
2030 PRINT "PIPAB      (PIPA (NO GLUCOSE) SOLUTION B)"
2040 PRINT "PIPAC      (PIPA (NO GLUCOSE) SOLUTION C)"
2050 PRINT "FRES      (FENWAL REJUVENATION SOLUTION SOLUTION)"
2060 PRINT "NR      (NON-REJUVENATED)"
2070 INPUT "REJUVENATION SOLUTION?",Rejuvsoln$
2080 IF Wrong=17 THEN 2110
2090 PRINT #1,E*20+8;Rejuvsoln$
2100 GOTO 3520
2110 PRINT PAGE
2120 INPUT "51-CR RADIATION (MICROCURIES)?",Cr51$
2130 IF Wrong=17 THEN 2160
2140 PRINT #1,E*20+2;Cr51$
2150 GOTO 3520
2160 INPUT "125-I RADIATION (MICROCURIES)?",I125$
2170 IF Wrong=17 THEN 2200
2180 PRINT #1,E*20+3;I125$
2190 GOTO 3520
2200 INPUT "111-INDIUM RADIATION (MICROCURIES)?",Indium111$
2210 IF Wrong=17 THEN 2240
2220 PRINT #1,E*20+4;Indium111$
2230 GOTO 3520
2240 INPUT "BLOOD VOLUME DRAWN (MLS)?",Volume$
2250 IF Wrong=17 THEN 2280
2260 PRINT #1,E*20+15;Volume$
2270 GOTO 3520
2280 INPUT "DMSO CONCENTRATION (%)?",Dmsococonc$
2290 IF Wrong=17 THEN 2320
2300 PRINT #1,E*20+12;Dmsococonc$

```

WRONG

```

2310 GOTO 3520
2320 LINPUT "RESIDUAL DMSO INFUSED (MG)?",Dmsoinfused$
2330 IF Wrong=17 THEN 2360
2340 PRINT #1,E*20+1;Dmsoinfused$
2350 GOTO 3520
2360 LINPUT "AUTOTRANSFUSION NUMBER?",Autotrans$
2370 IF Wrong=17 THEN 2400
2380 PRINT #1,E*20+10;Autotrans$
2390 GOTO 3520
2400 LINPUT "SPECIAL CODE NO.?",Code$
2410 IF Wrong=17 THEN 2440
2420 PRINT #1,E*20+11;Code$
2430 GOTO 3520
2440 PRINT "I-125"
2450 PRINT "PLT-REA"
2460 PRINT "RBC-REA"
2470 PRINT "WBC-REA"
2480 PRINT "IF NONE, ENTER 0"
2490 LINPUT "ANY REACTIONS?",Reactions$
2500 IF Wrong=17 THEN 2530
2510 PRINT #1,E*20+9;Reactions$
2520 GOTO 3520
2530 PRINT PAGE
2540 PRINT "8/2-7-40";TAB(15);"(0.8/0.2 pH 7 with PHOSPHATES (40mg%))"
2550 PRINT "9/2-5-00";TAB(15);"(0.9/0.2 pH 5 without PHOSPHATES)"
2560 PRINT "9/2-5-40";TAB(15);"(0.9/0.2 pH 5 with PHOSPHATES (40mg%))"
2570 PRINT "9/2-5-80";TAB(15);"(0.9/0.2 pH 5 with PHOSPHATES (80mg%))"
2580 PRINT "9/2-6-80";TAB(15);"(0.9/0.2 pH 6 with PHOSPHATES (80mg%))"
2590 PRINT "9/2-6.5-40";TAB(15);"(0.9/0.2 pH 6.5 with PHOSPHATES (40mg%))"
2600 PRINT "9/2-6.8-40";TAB(15);"(0.9/0.2 pH 6.8 with PHOSPHATES (40mg%))"
2610 LINPUT "WASH SOLUTION?",Washsoln$
2620 IF Wrong=17 THEN 2650
2630 PRINT #1,E*20+13;Washsoln$
2640 GOTO 3520
2650 PRINT PAGE
2660 PRINT "PROC ERR (PROCESSING ERROR)";TAB(40);"CONT UNIT (CONTAMINATED UNIT)"
2670 PRINT "REFZN (UNIT WAS REFROZEN)";TAB(40);"PED (PEDIATRIC UNIT)"
2680 PRINT "FZN ERR (FREEZING ERROR)";TAB(40);"CARD (CARDIOPLEGIA UNIT)"
2690 PRINT "LOW HCT (HEMATOCRIT TOO LOW)";TAB(40);"TRANS (UNIT SUBJECTED TO TRANSPORT)"
2700 PRINT "HIGH HCT (HEMATOCRIT TOO HIGH)";TAB(40);"SHORT DR (SHORT DRAW)"
2710 PRINT "LOW PUL (PULSE RATE TOO LOW)";TAB(40);"LIQ WSH (UNIT WAS LIQUID WASHED)"
2720 PRINT "HIGH PUL (PULSE RATE TOO HIGH)";TAB(40);"LOW TEMP (TEMP TOO LOW)"
2730 PRINT "IRR PUL (PULSE RATE IRREGULAR)";TAB(40);"HIGH TEMP (TEMP TOO HIGH)"
2740 PRINT "LOW BP (BLOOD PRESSURE TOO LOW)";TAB(40);"PLT ISO (PLATELETS ISOLATED FROM UNIT)"
2750 PRINT "HIGH BP (BLOOD PRESSURE TOO HIGH)";TAB(40);"VITRO WASH (UNIT WASHED FOR VITRO USE)"
2760 PRINT "WTHDRW (DONOR VOLUNTARILY WITHDREW)";TAB(40);"RJTD (DONOR REJECTED FOR UNIT DRAW)"
2770 PRINT "ILL (DONOR WAS ILL)";TAB(40);"ALC IN (DONOR HAD INGESTED A LOCHOL)"
2780 PRINT "NO SHOW (DONOR DID NOT APPEAR)";TAB(40);"-----"
-----

```

WRONG

```

2790 PRINT "V776      (UNIT DRAWN IN NEW PLASTIC BAG V776)"
2800 PRINT "A772      (UNIT DRAWN IN NEW PLASTIC BAG A772)"
2810 PRINT "21 LIQ    (LIQUID STORED FOR 21 DAYS @ 4degC)"
2820 PRINT "35 LIQ    (LIQUID STORED FOR 35 DAYS @ 4degC)"
2830 PRINT "POOR FTW  (POOR FREEZE-THAW-WASH RECOVERY)"
2840 PRINT "72 HR     (UNIT STORED @ 4degC FOR 72 HOURS POST WASH)"
2850 PRINT "NO>>(Xhr) (NO SAMPLES OBTAINED AFTER TIME INDICATED)"
2860 LINPUT "COMMENTS?",Comments$
2870 IF LEN(Comments$)>12 THEN 2890
2880 GOTO 2920
2890 DISP "COMMENT TOO LONG-TOO TRY AGAIN PRESS `CONT`"
2900 PAUSE
2910 GOTO 2860
2920 IF Wrong=17 THEN 2950
2930 PRINT #1,E*20+14;Comments$
2940 GOTO 3520
2950 LINPUT "MORE COMMENTS?",Comments2$
2960 IF LEN(Comments$)>12 THEN 2980
2970 GOTO 3010
2980 DISP "COMMENT TOO LONG--TO TRY AGAIN PRESS `CONT`"
2990 PAUSE
3000 GOTO 2950
3010 IF Wrong=17 THEN 3040
3020 PRINT #1,E*20+16;Comments2$
3030 GOTO 3520
3040 PRINT PAGE
3050 PRINT "HERE IS THE INFORMATION YOU ENTERED"
3060 PRINT
3070 PRINT "NAME OF DONOR= ";Firstname$;SPA(1);Lastname$
3080 PRINT "SOCIAL SECURITY NUMBER.= ";Ss$
3090 PRINT "DATE OF DONATION= ";Date$
3100 PRINT "METHOD OF COLLECTION= ";Method$
3110 PRINT "TYPES OF CELLS AND STUDY= ";Types$
3120 PRINT "BLOOD VOLUME DRAWN= ";Volume$;" MLS"
3130 PRINT "KIND OF STORAGE AND CELL AGE= ";Kind$
3140 PRINT "REJUVENATION SOLUTION= ";Rejuvsoln$
3150 PRINT "51-CR RADIATION= ";Cr51$;" MICROCURIES"
3160 PRINT "125-I RADIATION= ";I125$;" MICROCURIES"
3170 PRINT "111-INDIUM RADIATION= ";Indium111$;" MICROCURIES"
3180 PRINT "DMSO CONCENTRATION= ";Dmsococonc$;"%"
3190 PRINT "RESIDUAL DMSO INFUSED= ";Dmsoinfused$;" MG"
3200 PRINT "AUTOTRANSFUSION NO.= ";Autotrans$
3210 PRINT "SPECIAL CODE NO.= ";Code$
3220 PRINT "REACTIONS= ";Reactions$
3230 PRINT "WASH SOLUTION= ";Washsoln$
3240 PRINT "COMMENTS= ";Comments$
3250 PRINT "MORE COMMENTS= ";Comments2$
3260 LINPUT "IS THE INFORMATION CORRECT (Y/N)?",Correct$
3270 IF Correct$="Y" THEN 3290
3280 IF Correct$="N" THEN 100
3290 PRINT #1,1;Ss$
3300 PRINT #1,3;Firstname$
3310 PRINT #1,4;Lastname$
3320 PRINT #1,E*20;Date$
3330 PRINT #1,E*20+1;Dmsoinfused$
3340 PRINT #1,E*20+2;Cr51$
3350 PRINT #1,E*20+3;I125$
3360 PRINT #1,E*20+4;Indium111$

```

WRONG

```
3370 PRINT #1,E*20+5;Method$
3380 PRINT #1,E*20+6;Types$
3390 PRINT #1,E*20+7;Kind$
3400 PRINT #1,E*20+8;Rejuvsoln$
3410 PRINT #1,E*20+9;Reactions$
3420 PRINT #1,E*20+10;Autotrans$
3430 PRINT #1,E*20+11;Code$
3440 PRINT #1,E*20+12;Dmsococonc$
3450 PRINT #1,E*20+13;Washsoln$
3460 PRINT #1,E*20+14;Comments$
3470 PRINT #1,E*20+15;Volume$
3480 PRINT #1,E*20+16;Comments2$
3490 PRINT
3500 PRINT
3510 PRINT "END"
3520 PRINT
3530 PRINT
3540 PRINT PAGE
3550 LINPUT "IS THERE ANOTHER ERROR? (Y/N)",Another$
3560 IF Another$="N" THEN 3590
3570 LINPUT "SAME DONOR?",Same$
3580 GOTO 100
3590 MASS STORAGE IS ":F8"
3600 PRINT PAGE
3610 DISP "SELECT ANY PROGRAM"
3620 END
```

8. PROGRAM BACKUP

BACKUP

```

10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM BACKUP"
60  PRINT
70  MASS STORAGE IS ":F8"
80  DISP "INSERT MAIN PROGRAM DISK IN F8 AND BACKUP PROGRAM DISK IN F8,1.  PRE
SS 'CONT'"
90  PAUSE
100 DISP "PLEASE WAIT"
110 ASSIGN #3 TO "Number:F8"
120 ASSIGN #4 TO "Number:F8,1"
130 READ #3;Number,Disktype$
140 READ #4;Number1,Disktype1$
150 IF (Number<>0) OR (Number1<>0) THEN 180
160 IF (Disktype$<>"M") OR (Disktype1$<>"B") THEN 180
170 GOTO 210
180 DISP "WRONG DISKS, TRY AGAIN"
190 PAUSE
200 GOTO 100
210 PURGE "REGIS:F8,1"
220 COPY "REGIS:F8" TO "REGIS:F8,1"
230 DISP "INSERT MAIN DISK #N IN F8,1 AND BACKUP DISK #N IN F8,2. PRESS 'CONT'
."
240 PAUSE
250 DISP "PLEASE WAIT"
260 ASSIGN #3 TO "Number:F8,1"
270 ASSIGN #4 TO "Number:F8,2"
280 READ #3;Number1,Disktype1$
290 READ #4;Number2,Disktype2$
300 IF Number1<>Number2 THEN 330
310 IF (Disktype1$<>"M") OR (Disktype2$<>"B") THEN 330
320 GOTO 360
330 DISP "WRONG DISKS, TRY AGAIN"
340 PAUSE
350 GOTO 250
360 ASSIGN #3 TO "Number:F8,1"
370 READ #3;Number
380 End=Number*50+1
390 Start=End-49
400 ASSIGN #5 TO "REGIS"
410 ON END #5 GOTO 500
420 FOR I=Start TO End
430   READ #5,I;A$
440   O$=A$[5,6]
450   P$=A$[8,11]
460   File$=O$&P$
470   Oldfile$=File$&":F8,2"
480   PURGE Oldfile$
490   NEXT I
500 ASSIGN #3 TO "Number:F8,1"
510 READ #3;Number
520 End=Number*50+1
530 Start=End-49
540 ASSIGN #5 TO "REGIS"
550 ON END #5 GOTO 640
560 FOR I=Start TO End

```

BACKUP

```
570 READ #5,I;S$#
580 O$=S$[5,6]
590 P$=S$[8,11]
600 File$=O$&P$&":F8,1"
610 Newfile$=O$&P$&":F8,2"
620 COPY File$ TO Newfile$
630 NEXT I
640 INPUT "ANOTHER SET OF DISKS? (Y/N)",Another$
650 IF Another$="Y" THEN 230
660 DISP "END"
670 END
```


9. PROGRAM NUMBER

NUMBER

```
10  PRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  PRINT
50  PRINT "PROGRAM NUMBER"
60  PRINT
70  DISP "INSERT AN INITIALIZED DISK IN F8,1"
80  PAUSE
90  INPUT "DISK NO.?",Number
100 INPUT "MAIN DISK OR BACKUP DISK? (M OR B)",Disktype$
110 MASS STORAGE IS ":F8,1"
120 CREATE "Number",1,15
130 ASSIGN #3 TO "Number"
140 PRINT #3;Number,Disktype$
150 DISP "REMEMBER TO LABEL DISK"
160 MASS STORAGE IS ":F8"
170 END
```

10. PROGRAM FILE

FILE

```
10  FPRINTER IS 16
20  PRINT PAGE
30  PRINT "BLISS"
40  FPRINT
50  PRINT "PROGRAM FILE"
60  FPRINT
70  LINPUT "STORAGE DEVICE TO BE USED? (:T15, :F8, :F8,1?)",Device#
80  Filename#="REGIS"&Device#
90  CREATE Filename#,1000,25
100 ASSIGN #5 TO Filename#
110 PRINT #5,1;0,0
120 END
```